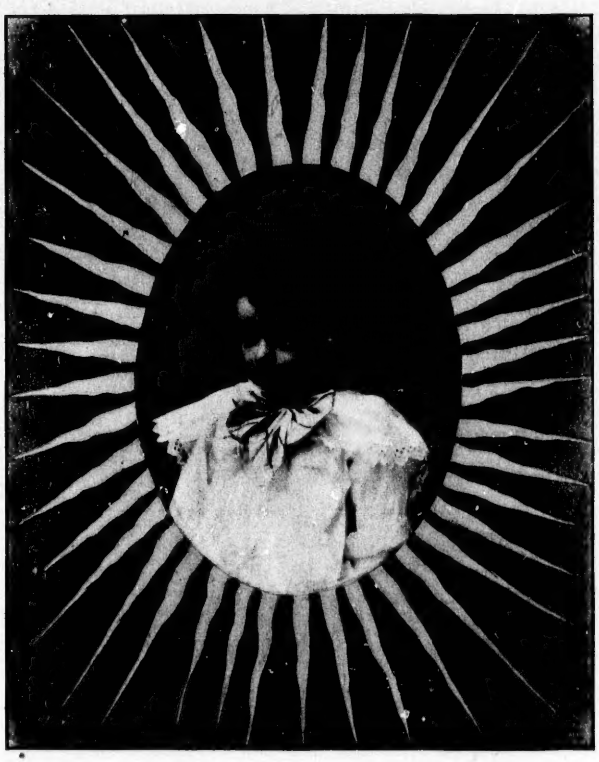


The Idol o' the Staff.

JULY ANNUAL

Kootenay Mining Standard,

1899.

AN ILLUSTRATED JOURNAL

SHOWING THE

Beauties and Resources of the Kootenays.

VICTORIA B.C. PUBLIC LIBRARY

Endorsed by the various Municipal Bodies and Boards of Trade throughout the District.

"Read, Mark, Learn and Inwardly Digest."

SINGLE COPIES $1.50 EACH. FIVE COPIES OR OVER $1.00 EACH.

NW
971.08
K83j

PRINTED AND PUBLISHED
BY THE
STANDARD PUBLISHING CO.,
ROSSLAND, B. C.

KOOTENAY
Mining Standard.
JULY ANNUAL.

ROSSLAND, B. C., JULY, 1899.

13-B

Kootenay
Mining Standard

An up-to-date newspaper, published in the interest of the Kootenays.

Printed and published monthly at the office of the Standard Publishing Co., 118 Columbia Ave. E., Rossland, B.C. P.O. Box 308; Phone 88; Cable Address, "Standard," Code, Bedford-McNeill.

RATES OF SUBSCRIPTION:
One Year $2.00
Six Months.....$1.00

All communications to the editor must be accompanied by the writer's name and address, not necessarily for publication, but as evidence of good faith.

Copies of the STANDARD can be secured at all reliable news stands.

IN presenting our Annual we would apologise to all who have experienced disappointment in not having received their number as early as we had hoped to place it in their hands. The work has been delayed longer than we anticipated. Kootenay is a big district to cover, and our anxiety to make the annual as complete as possible is the only excuse we have to tender for not publishing on the date announced. Every section of the country has been visited by our special correspondents and artists: the result of their labors we now respectfully submit, and venture to hope that it will be favorably received. The information herewith furnished has been obtained from the most reliable sources, and is presented without fear, favor or affection. Particular localities throughout the Kootenays have from time to time been "written up" by those immediately interested and in some cases at least with an apparent desire to detract from the merits of neighboring camps so as to inflate the richness of the section under treatment. We have endeavored to avoid these undesirable comparisons and present matters just as we find them. The naked truth is all that need be told of the Kootenays—the most favored section of a peculiarly favored province. Not a line in the annual has been indicted by any corporation, body or individual to "boom" their particular interests nor is a single sentence paid for by any party whose property may be mentioned. Under such circumstances the contents of the annual may be relied on as representing Kootenay in its present stage of development. Our work is endorsed by every board of trade and municipal body throughout the entire district we profess to cover, as will be observed by our illustrated pages. In this particular the position of the Kootenay Mining Standard Annual is unique. In faithfully representing the resources and beauties of our country to the world we feel that good will result, and to those who have assisted us in our work we tender our best thanks. All along the line we have been received very generously, which encourages the belief that our labors are fully appreciated.

Kootenay is a comparatively young mining country, but during its brief history some wonderful things have been accomplished. To-day we have some of the richest mines in British Columbia, while the development work being done proves conclusively that there are equally rich bodies of ore yet to be handled. It is only a matter of a few months till new dividend paying properties shall have been added to the list and new shippers recorded. As the country is being opened up new discoveries are made which go to prove that the mineral resources of the district are practically illimitable. The first prospectors blaze a trail, the next flight of newcomers cut it out rendering it plain and passable; by those who follow the trail is still further improved, until ultimately it becomes a wagon road. This process is not as rapid as might be desired, nor is the provincial government to be complimented on their road-making policy: the tendency rather is to leave to private enterprise much that should be done at the expense of the public exchequer. However, the district is an extensive one, and the progress made is, on the whole, satisfactory.

The Kootenay district comprises an area of over 15,000,000 acres, extending north and south from the international boundary to the Big Bend of the Columbia. It is divided by the Purcell range of the Selkirks into East and West Kootenay, and almost the entire region is drained by the Columbia River, which flows north through East Kootenay and south through West Keetenay. It may be said that throughout the whole country mineral is found, and in great variety. Early in the 80's the Kootenays first came into prominence as a mineral section. A

419131

few of the old miners and prospectors from Cariboo, California, Colorado and other well-known mining regions wandered into Kootenay in search of gold. But the formation was new to them. Some of the more practical of the little band flung aside precedent and boldly proclaimed the mineral wealth of the new territory. Experts, whose heads were filled with California precedents, were called in and averred that the ore was too base and low grade to pay for treatment, and that the formation was so broken that it would be impossible to follow any ore body from the croppings to any considerable depth. How mistaken these gentlemen were has since been fully demonstrated. It has been proven over and over again that the ore bodies increase as depth is attained, and that values improve. However, it took some time and capital to make the pleasing discovery. The first flock of investors was doomed to disappointment, and they had but themselves to blame. They were without experience in mining—farmers, merchants, manufacturers and professional men from the eastern provinces and the Old Country. This was no mining population, and those who composed it had to pay for their experience. Besides, there were "sharpers" in those days who missed no opportunity to take the tenderfoot in and relieve him of his superfluous cash. By degrees, however, prejudices were removed and experience was gained, till to-day Kootenay can boast of the most practical miners in the country and the richest mines.

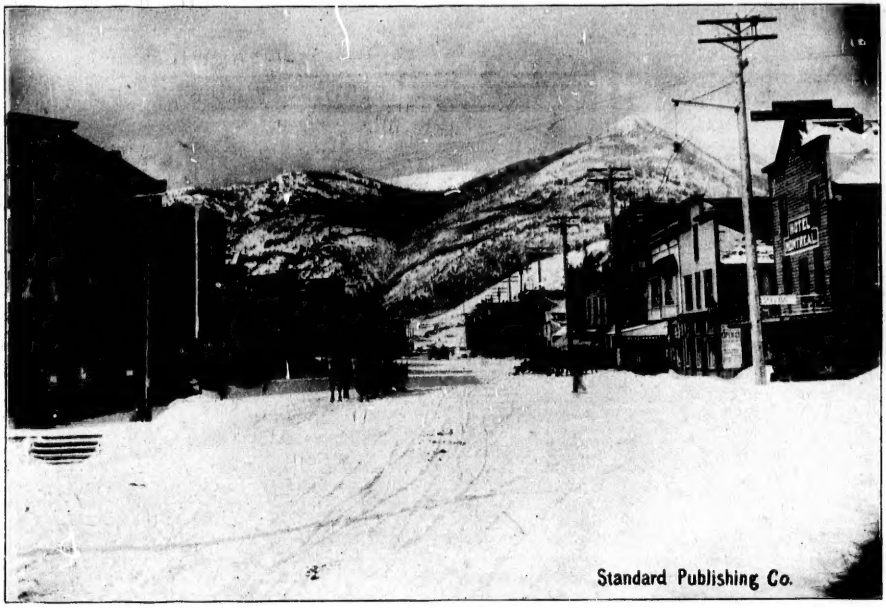
As already stated, the peculiar formations met with in this district were a puzzle to the experts who undertook to report on the rich discoveries. Minerals are found in almost every combination, the most common, perhaps, being iron and copper pyrites, arseno-pyrite, chalcopyrite, pyrrhotite, tetrahedrite or gray copper, galena or zinc blende. The pyritic ores carry gold in some proportion almost invariably, with a little silver, and often carry so much copper as to make that metal the principal element of value. The galena is usually rich in silver where the ledges are small, the silver value decreasing in inverse ratio to the increased size of the ledge. Lead values range as high as 75 per cent. with a few dollars per ton in gold. Gray copper proves a high grade silver ore, and when associated with iron carries a gold value. Silver also occurs in association with copper in some districts, and in the form of chlorides, bromides and carbonates. Free gold is frequently found on the surface, where the ore has been subject to the decomposing influence of the air, but it continues in decreasing ratio as the ore bodies are followed down. With increasing depth the gold is found more and more in iron and copper sulphides. In many sections the ledges have a gangue of quartz, porphyry, porphyritic quartz, horneblende or modifications of these several rocks, and are exposed to such a width as to excite wonder.

With renewed confidence in the mines of the Kootenays, a large amount of capital has come in and development work is being actively pursued. Unfortunately, the recent eight-hour law has been productive of some trouble, but it will only be of temporary duration. There is a general feeling that the change should have been agitated rather than legislated. To spring such legislation upon a mining community shows undue impetuosity, to say the least. However, the mining laws of British Columbia will bear favorable comparison with those of any other country, while our mines are second to none in the world for richness and extent. Here as no place else, is person and property safe. The laws are enforced: evil-doers know this, and give the Kootenays a wide berth.

As an example of the rapid growth of the mining industry in the Kootenays, it may be mentioned that while in 1896 this territory turned out ore to the value of $4,157,162, last year the figures were $6,177,343, and this in the face of a big falling off in the silver product of Slocan. To the total Ainsworth division contributed $159,801, Nelson $694,880, Slocan $2,619,852, and Trail Creek $2,470,811. It is, perhaps, in the Trail Creek division that the greatest activity is apparent. The vast amount of development work being done in this section promises to yield substantial returns to the fortunate investors. Already there are many dividend-paying properties in Trail Creek, and others are being added to the list. Some idea of the amount of work being done may be formed from the machinery installed at the various mines throughout Kootenay—a list of which machinery is given in another page.

A wholesome sign of the times is the anxiety being displayed by railway companies to get into newly opened districts. The big corporations realize the immense trade to be captured, and seem determined to get as big a slice of it as possible. The Crow's Nest Pass line has opened up an immense country, not the least important feature of which is the immense coal deposits—said to be among the most extensive on the continent. Then, the rich Boundary Creek district, lying at our very doors, will contribute its full quota to Kootenay's wealth as soon as railway construction is completed there, while the Lardeau-Duncan miners will shortly have the iron horse snorting past their doors at the head of richly freighted cars. Throughout the Kootenays railway building is going on apace, so that ample provision is being made for very complete transport facilities.

Heretofore the treatment of the ores was a difficult problem, but this has been overcome to a great extent. With a greatly improved railway service, better roads and trails, modern machinery, and reduced smelter charges the output of the mines can now be economically and profitably treated, and it is only a matter of time till some still cheaper mode of treatment is devised.

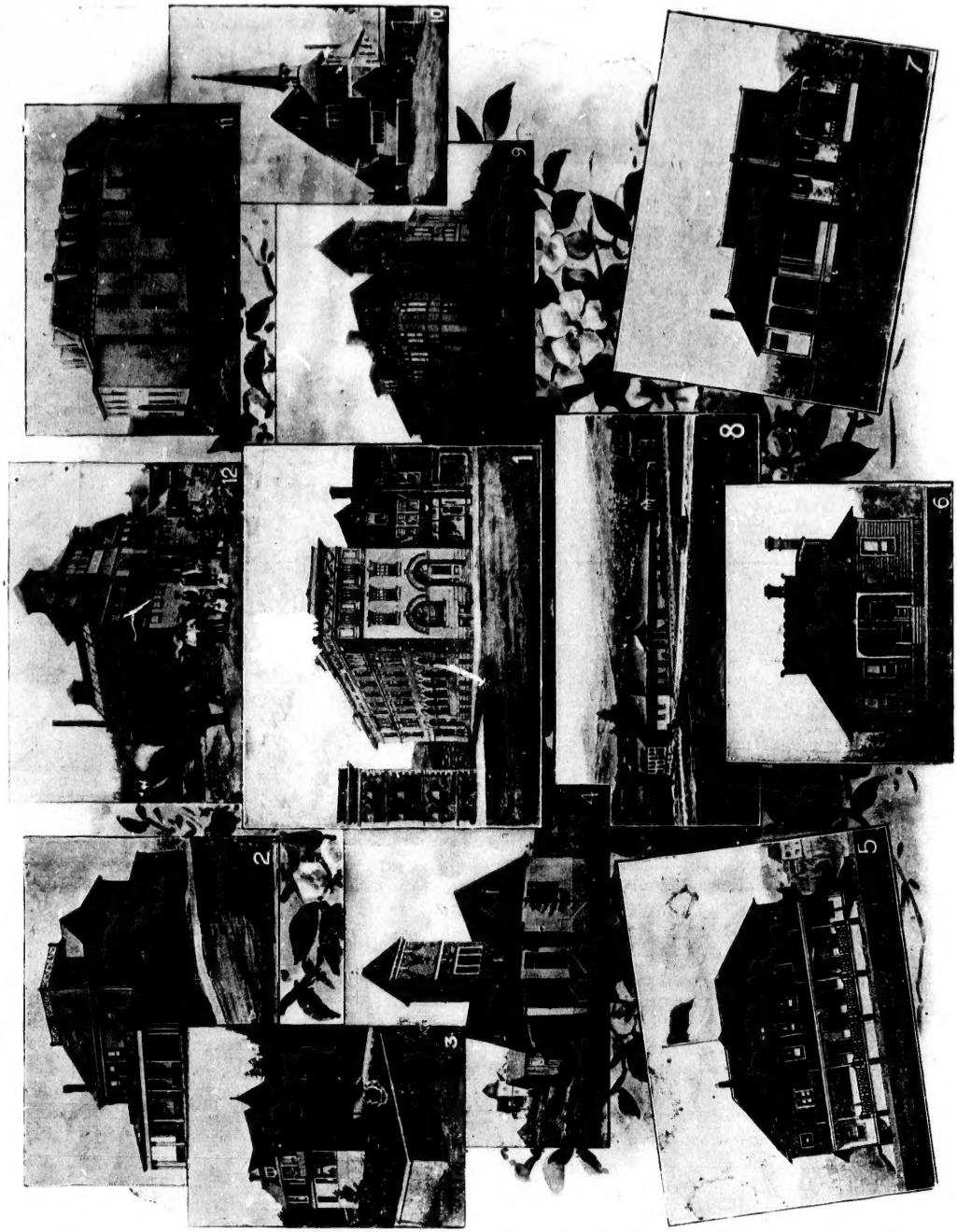


STREET VIEW, ROSSLAND.

ROSSLAND.

There is an element of romance in the mining history of this district which gives it a peculiar facination for those who do not relish the dry technical details which practical miners so much enjoy. Up to a few brief years ago what is now the mining capital of the Kootenays — the busy, thriving, progressive city of Rossland—was known only to a little band of hardy, hopeful prospectors, and had no place on the map of British Columbia. To-day Rossland is the best known mining centre perhaps in the world, and the one receiving most attention on the part of mining experts and judicious investors. The accompanying views of the "camp," as the place is still familiarly designated, with some of its leading mines, machinery, etc., will give a fair idea of its phenomenal growth, while the activity displayed in mining operations and the amount of capital being invested establishes a confidence that ensures success. Rossland stands at an elevation of some 3,200 feet above sea level, and is the centre of the famous Tral Creek mining district, in the Gold range of mountains. The district extends six miles northward from the international boundary and about seven miles westward from the Columbia River. Two systems of railway run through, connecting with Rossland—the Spokane Falls & Northern and the Columbia & Western, which connect in turn with the big trunk systems and steamship lines.

About the first mineral discovery in the immediate district of Rossland was made in 1887 by George Bowman and George Layson, who guarded their secret very jealously. Their mysterious air, however, induced others to try their luck in the wilds, and two years later the Lily May was located by Oliver Bordeau and Newlin Hoover. The initial locations on Red Mountain were made in July, 1890, by Joseph Bourjois and Joe Morris—the Centre Star, War Eagle, Idaho and Virginia. Later on they also staked the now famous Le Roi, but the assays from the samples taken out were so low that the disappointed prospectors offered any one of the claims in lieu of recording fees. E. S. Topping, the then recorder, reluctantly accepted the offer. About the same time the Josie was located by Harry Sherrin for himself and R. E. Lemon, of Nelson. Col. Topping lost no time in testing his property (the Le Roi was the claim he selected in lieu of recording fees). He had samples of the ore taken to Colville, Wash., and got returns approaching $500. He showed his specimens and assays to George M. Forster and Col. Wm. Ridpath, two lawyers attending court, by whom he was induced to go to Spokane and show the ore to Oliver Durant, an experienced mining engineer. So pleased was this gentleman with the prospect that he took a six months' bond on the property, for which he agreed to pay $30,000 and to spend $3,000 in development work. The venture was joined in by a coterie of lawyers, including Messrs. Forster and Ridpath, Senator George Turner, Col. W. W. D. Turner and Frank Graves. This was in Nov., 1890, and by the following spring a

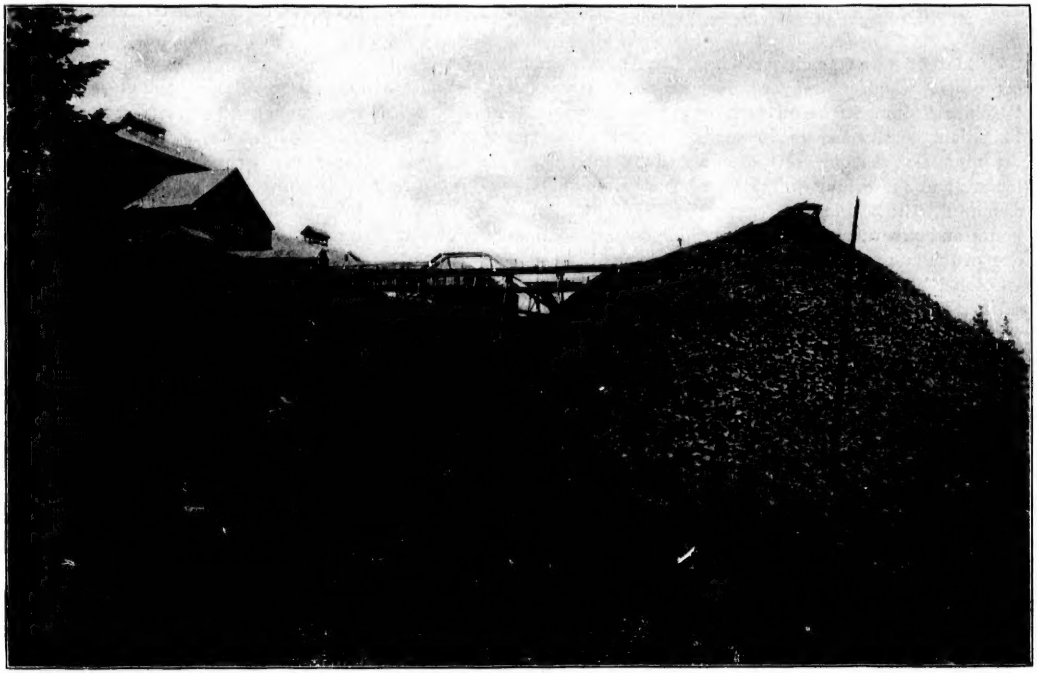


1. Bank of Montreal. 2. Rossland Club. 3. Residence of Ald. Ross Thompson, the Founder of Rossland. 4. Baptist Church. 5. British America Corporation, General Office. 6. B. A. C. Assay Office. 7. B. A. C. Superintendent's Residence. 8. New C. P. R. Depot. 9. Public School. 10. Presbyterian Church. 11. Sisters' Hospital. 12. Lion Brewery.

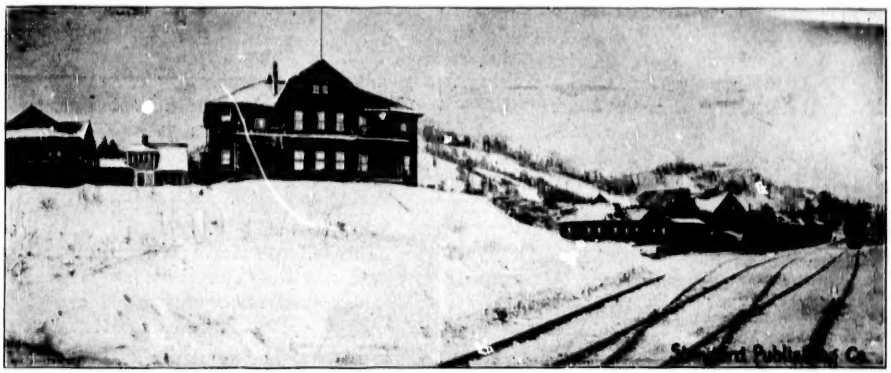
shaft was down some thirty-five feet in ore that ran high in values. The bond was taken up, some interests reserved by Col. Topping were purchased, and the Le Roi Mining & Smelting Co. was organized. In the fall of 1891 the first car load of ore was packed out and shipped to a smelter at Butte, giving returns of $86.40 in gold, silver and copper. But despite the prospects of the Le Roi of those days, the stock was for a long time a drug on the market. It was reluctantly accepted at a few cents per share in payment of debts to persons who have since become rich by it. A Spokane boarding-house keeper took it in payment of a board bill hopelessly in arrears; a stenographer accepted it in settlement of arrears in salary because it was "Hobson's choice;" a tailor cried quits on a suit of clothes in consideration of a block of the stock and avowed he had the worst of the bargain; the artistic certificate was traded for a pair of jeans, and in various other ways it did needy service. How many of those who accepted Le Roi stock under protest thus acquired unexpected riches it would be difficult to say, but they are numerous.

This brief little history of the earlier stages of the Le Roi is given because it is the poineer mine of the camp. It was not until 1893 that the development of the other properties, now so well known, began. In the summer of that year the wagon road to Trail was made and the Le Roi commenced to be a regular shipper, and has continued so to the present day. The construction of the road down Sheep Creek to Northport, a distance of sixteen miles, followed. Early in 1896 a narrow guage railroad was built by F. August Heinze from Rossland to Trail, and a smelter was started at the latter point by the same gentleman. Both the railway and the smelter have since been acquired by the Canadian Pacific Railway Co., and much improved—the former widened to the standard scale and the latter considerably enlarged. At the same time a substantial reduction has been made in freight and smelter charges. The Spokane Falls & Northern also extended its railway system so as to take in Rossland. Thus by degrees the camp emerged from the prospecting to the mining and shipping stage.

The townsite of Rossland was located as a pre-emption, in 1891, by Ross Thompson, but not until 1895 was it crown-granted and platted. The first sale of town lots took place the same year. Prices ranged from $25 to $100 per lot on what is now the principal thoroughfare in the city. In those days property in Rossland sold at so much per lot; in these it is bought up at so much per foot. During the summer of 1896 there was a great influx of population—a "boom." In the following spring there must have been fully 7,000 people in the camp; but the boom burst, and matters have since gradually settled down to a sound business basis.



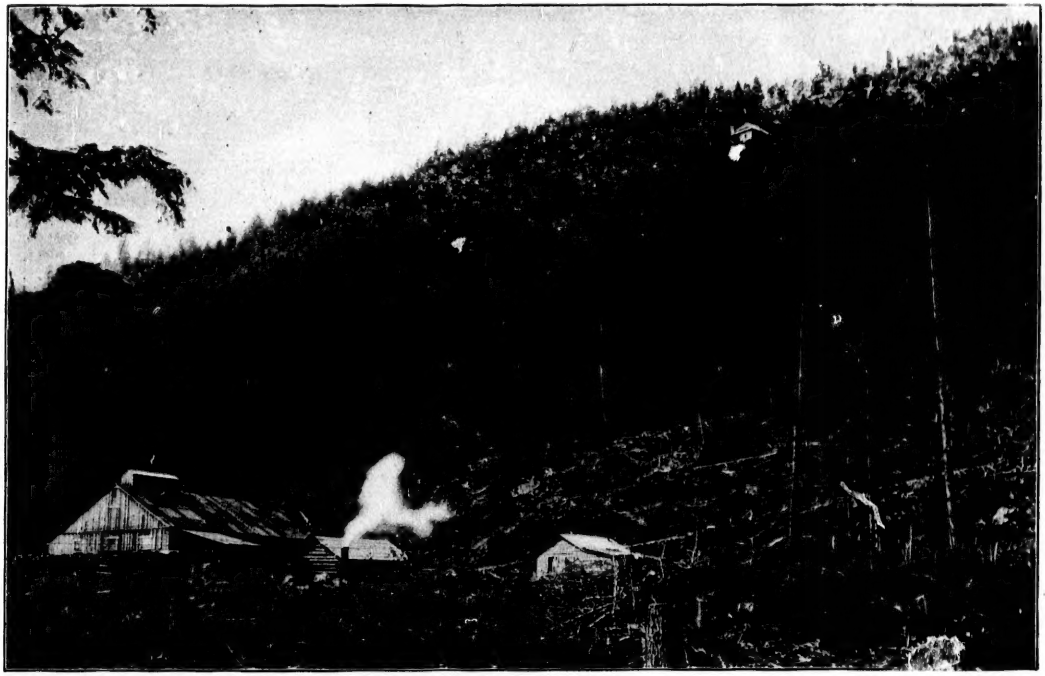
LE ROI MINE, ROSSLAND.



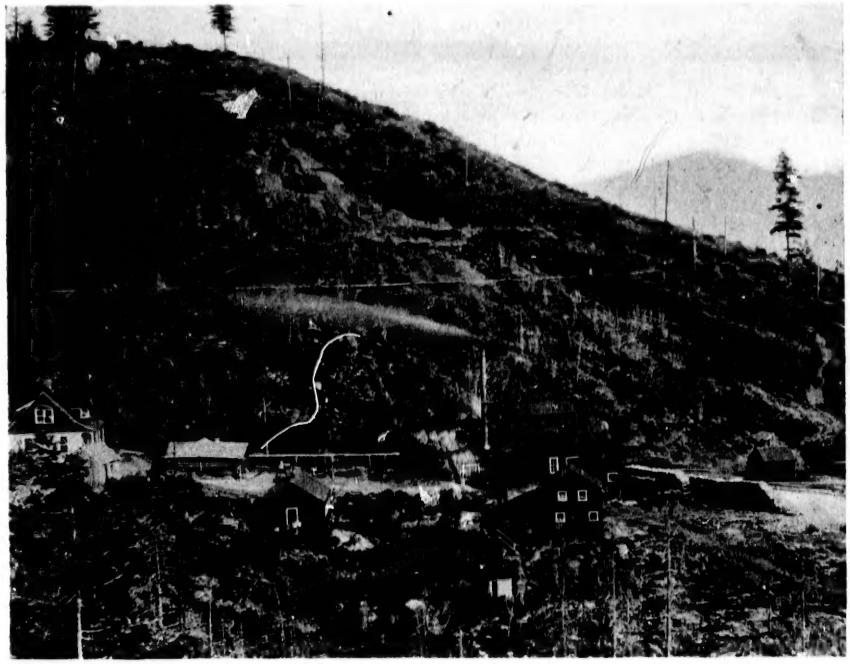
B. A. C. Offices, Rossland.

In March, 1897, the city was incorporated, the first mayor being "Colonel" Bob Scott—an eastern Canadian gentleman who created the impression that he was a man of leizure and one willing to give the community the benefit of his spare hours and experience. However, one of the first official acts of the "Colonel" was to vote himself a salary. Since incorporation some wonderful improvements have taken place—streets graded, miles of sidewalk laid, fire protection established and the sewerage, electric light and waterworks systems extended. Financially the city is sound. The school system and accommodation is excellent, and all the leading religious denominations are well represented.

As to the mines in and around Rossland—well, they have shipped this year, to July 1st, 64,630 tons of ore, an increase of 25,400 tons on the corresponding period of 1898. The Le Roi is the heaviest shipper to date, but that great mine has some very formidable rivals in the camp which may any day catch up to it. The property passed to the control of the British-America Corporation last year with many others, and has since been systematically worked, and with the best results. The capital stock of the company is



Columbia and Kootenay Mine, Rossland.



JOSIE MINE, ROSSLAND.

GREAT WESTERN, ROSSLAND.

$7,500. The mine itself was never in better condition. Some short time ago the rumour was started by some interested parties who evidently did not understand the position, that the ore was proving of inferior grade as depth is attained. The idea was erroneously founded on the fact that the smelter returns have been lower in proportion to the amount of ore now handled. In this connection it should be remembered that under the old management only picked ore was shipped indeed, nothing else would pay considering the then freight and smelter charges and the imperative demand of stockholders for their regular dividends. The new company, however, is doing systematic development work, and is sending to the smelter material which would under the old regeme be consigned to the dump. This is rendered possible by the reduction in freight and smelter rates—now from $5 to $6 a ton. The property will maintain its old position as a substantial dividend-payer. Work goes ahead steadily, with vastly increased facilities for handling the ore. Sinking on the main shaft to the 900-foot level is now in progress, and work on the new tunnel on the Black Bear ground is being pushed along at a good pace.

The War Eagle is now thoroughly equipped with an electric plant. The whole property has undergone a complete change since it came into the hands of the Toronto syndicate, headed by Messrs. Gooderham and Blackstock. Last year the output of the mine shipped for treatment totalled 42,779 tons, while for the first six months of the present year the figures are 20,262 tons. The mine ceased to be a shipper for a considerable period pending extensive alterations and more favorable smelter rates than prevailed when the property was taken over by the War Eagle Consolidated Mining & Development Co. The company also own and operate the Centre Star, an adjacent property, for which the former owners were paid the sum of $2,000,000. About 2,600 tons had been shipped under the old management, and although at present attention is being more particularly directed to practical development, considerable ore is sent to the smelter. For the week ending July 1st, 640 tons were shipped, making the total for the half-year 1,835 tons. The mine is to be thoroughly equipped with up-to-date machinery, which it is expected will be installed by October next. Both properties enjoy rare facilities for handling ore owing to their proximity to the railway. By the payment of the last regular monthly dividend the War Eagle shareholders have received to date $335,250.

The Iron Mask last year sent to the smelter 3,370 tons of ore, and received therefor $72,600. For the first half of the current year the record is 1,275 tons. Work is progressing steadily at the mine, which is now one of the established shippers of the camp.

THE NICKEL PLATE, ROSSLAND

VIRGINIA MINE, SHOWING CENTRE STAR, WAR EAGLE, AND LE ROI.

The Evening Star has joined the list of shippers, and from present indications there can be no doubt that the output can be materially increased. A contract has been let for hauling the ore to the depot and the winze is being continued from the lower tunnel.

At the Virginia work goes on steadily, but no shipments have been made.

At the Deer Park they are drifting on the 300-foot level, and all is looking well. Some small shipments of ore have been made from the mine, with every prospect of more to come.

The Iron Horse shows every indication of becoming a great property. A 158-foot ledge has been cut clear across, and a drift is being run on a 10-inch streak of high grade copper ore. There is also a 180-foot drift from the bottom of the main shaft in good ore. Work is proceeding vigorously.

The I. X. L. has resumed work, and the management speak very hopefully of the prospects. The property is situated on the O. K. Mountain, two miles west of Rossland.

The Nickel Plate is in good condition. The connection from the surface to the 200-foot level for the new shaft has been made and the timbering completed. Sinking will be continued to the 400-foot level, from which point drifting will be started.

The White Bear is now in readiness to resume active operations. The policy is to sink the shaft 400 or 500 feet if necessary, and thoroughly test the property.

The Douglas is showing up well for the amount of work done. They are now engaged on a 30-foot lead which was struck recently.

The Velvet continues to improve as work progresses. On the 200-foot level the ore body has been cut across for some eight feet. The main tunnel is in some 300 feet. It is expected another 100 feet will suffice to reach the main ledge.

The new St. Elmo is in readiness for the big compressor, which is expected daily. There will be no time lost in installing the plant. At present the tunnel is receiving all attention, and everything is looking well.

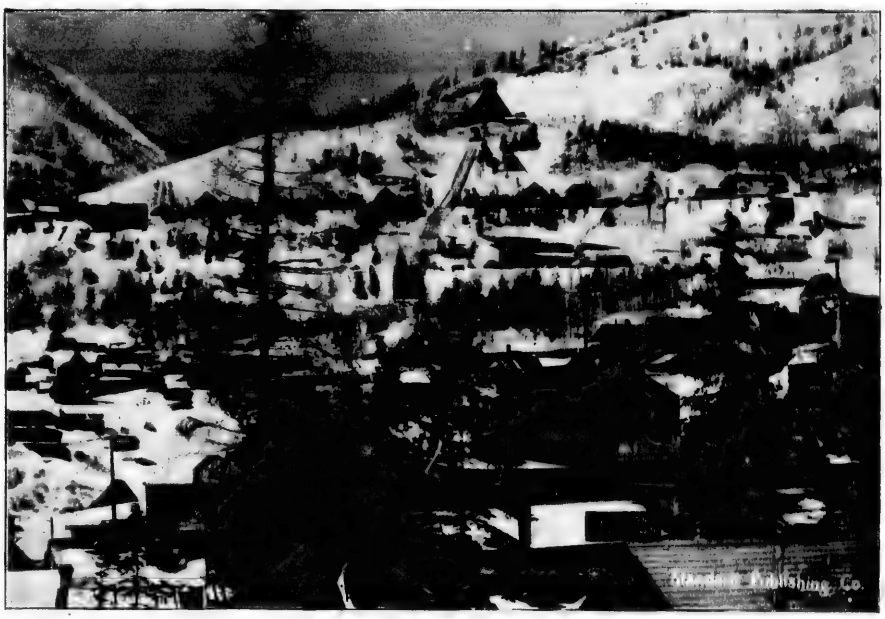
The Great Western is awaiting the arrival of new machinery. All is in readiness to instal the plant and resume work.

At the Columbia-Kootenay the usual activity prevails. Connection is being made between the several levels, three of which are being continued.

The Green Mountain managers are sanguine that by a little more work they will be able to determine the character and extent of their recent rich strike.

The Jumbo improves as work on the long tunnel advances.

The Lily May ore body is widening out, which gives renewed vigor to those engaged in the property. Great things are expected from the Lily May.



1. Le Roi Mine. 2. War Eagle Shaft-house. 3. War Eagle and Centre Star Mines.

The Leiter tunnel is in nearly 200 feet. It was driven for No. 3 lead, which has been struck. The ore is very promising looking and many declare it of shipping quality. It is intended to continue crossing to determine the width of the ledge.

The Mabel is being worked to cross-cut the ledge. The property is looking well.

At the Deer Park drifting continues on the 300-foot level, and with encouraging results.

The Homestake is progressing favorably. Drifting west and cross-cutting south is the orders the men are carrying out.

The Southern Belle and Snow-shoe are being worked systematically. They are cross-cutting in the Southern Belle to meet the Snow-shoe ledge.

The Josie hands are engaged in cutting out a station at the 400-foot level preparatory to sinking another hundred feet, when drifting will be started.

On the Coxey systematic surface work continues.

At the Gertrude cross-cutting is continued from the 200-foot level. Work shows up well.

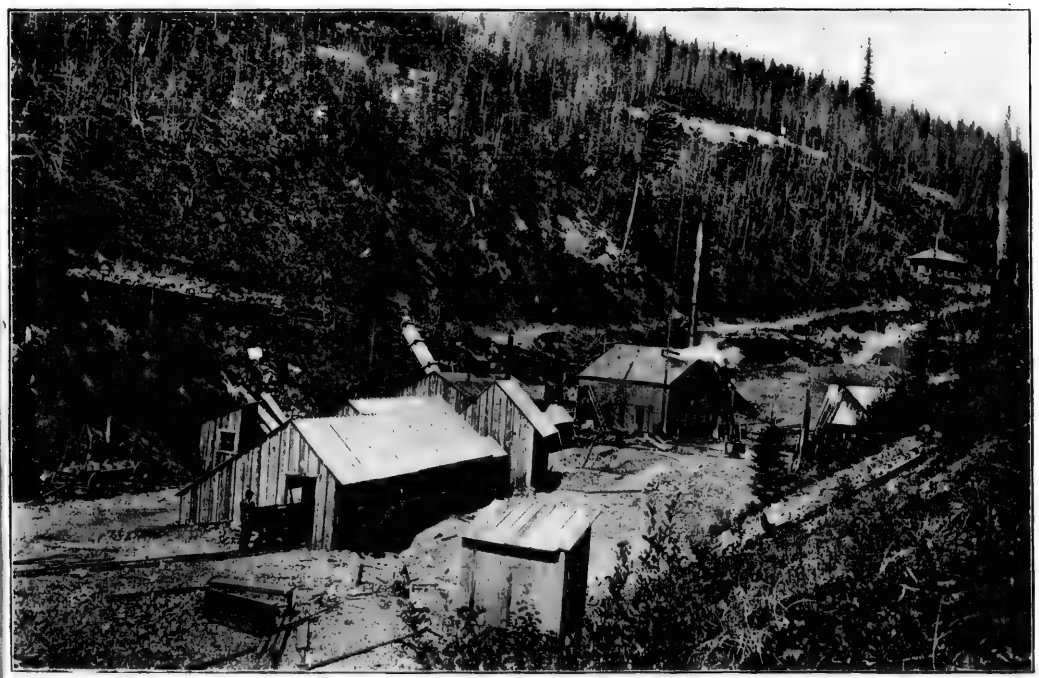
At the Olga and X-Ray tunneling is still the order of the day.

The Big Four has been reorganized, and the new company undertake to work the property for all it is worth. Already considerable work has been done in the way of tunneling and snafting, and this is to be resumed.

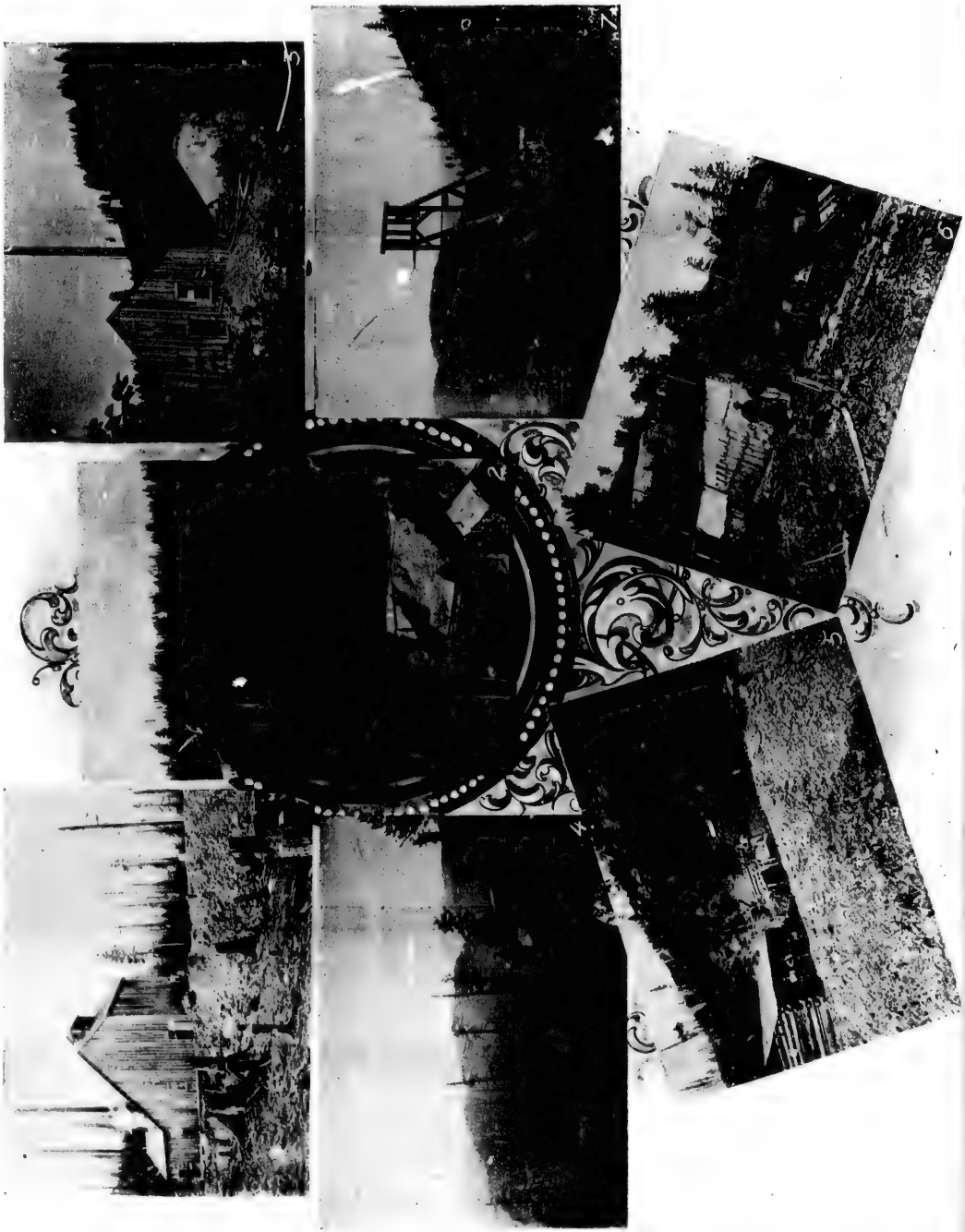
At the Sunset No. 2 development work proves up most satisfactorily. The mine will soon be a regular shipper. Good pay ore has been struck, and every facility for working the mine is at hand in the way of machinery. The Canadian Gold Fields, Ltd., also own and operate the Gold Hunter and Alabama,

War Eagle Shafthouse.

. First Building on War Eagle Ground. 2. Boarding-House, War Eagle. 3. War Eagle Mine, showing Dump.



Centre Star, Rossland.



1. White Bear Mine. 2. Jumbo Mine. 3. Iron Colt Mine. 4. Gertrude Mine. 5. Coney Mine. 6. Giant Mine. 7. No. 1 Mine (B. A. C.)

adjoining the Sunset, and have recently acquired the Lake Shore group at Moyie.

At the Monte Cristo upwards of 5,000 feet of development work has been done. There is ample plant on the ground to operate the property.

The Iron Colt has had considerable work done on it—upwards of 1,000 feet. Here, also, the necessary machinery has been installed.

The Good Friday has been carefully worked. Surface showings for work, and improves as it proceeds.

The Wallingford is showing up well as work proceeds. The property was recently taken over by a strong Toronto syndicate, and the development so far done consists of two shafts, several prospect open cuts and a 340-foot tunnel. Assays run from 11 to 20 per cent. copper besides fair gold and silver values. The ore is said to be identical with that found in the Velvet, Victory-Triumph, and Anaconda properties is a good showing of ore at this point. On the Velvet vein nothing has been done so far except a prospecting shaft 30 feet deep, but the development work on the lower levels of the Velvet is approaching the point where the ore body runs into the Triumph ground. The property has been transferred from the Victory-Triumph Gold Mining Co. to the Trail Creek Mining Co. of London, Eng., and preparations are now about consummated for working it on an extensive scale.

Iron Mask, Rossland.

are great, but a sufficient depth has not been attained to fully test the ore bodies.

The Giant last year shipped 114 tons of ore, averaging $17 to the ton. There are at least two distinct leads on the ground.

The Novelty, adjoining the Giant, is another good property which has been fairly well proven.

On the Abe Lincoln five stringers of pay ore have been encountered in the workings.

The Commander is well equipped in the same belt.

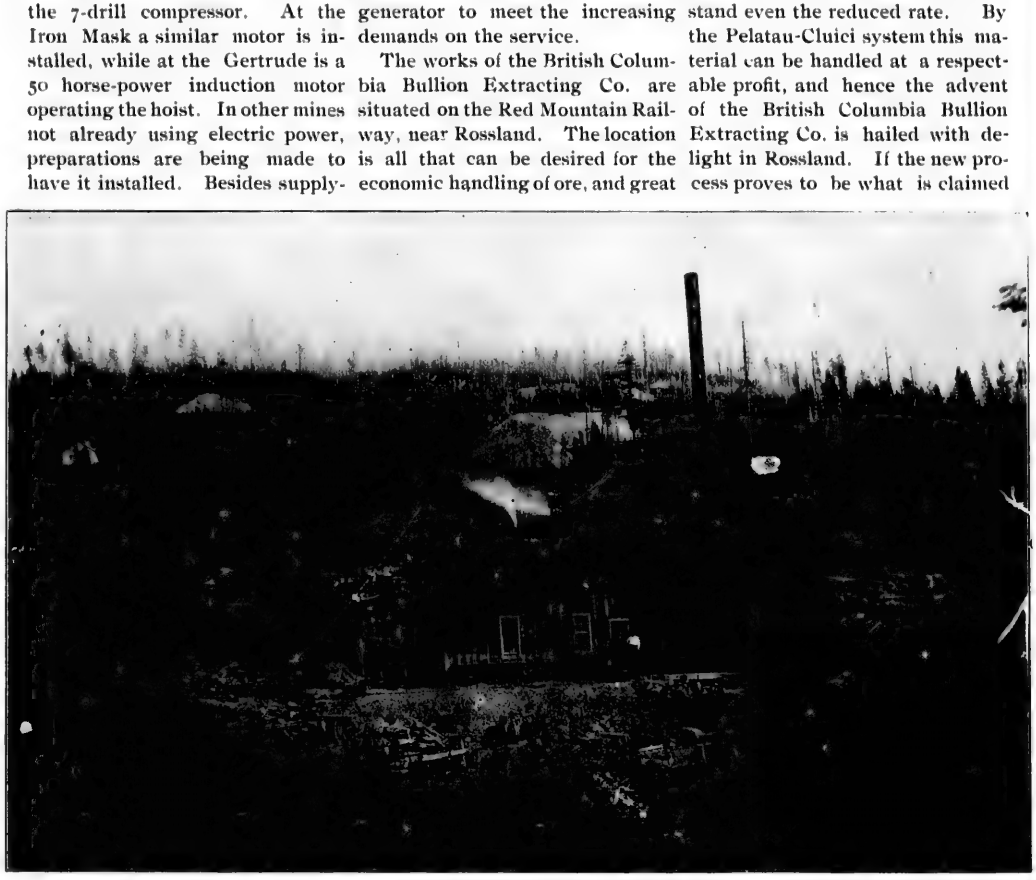
The Victory-Triumph is located on Sophie Mountain, south east of and adjoining the Velvet mine. On the property are three veins—the Victory vein, the Velvet vein and the Triumph east vein. The first-named vein is developed by a tunnel 700 feet long, with subsidiary cross-cuts opening up large bodies of copper-silver ore. The Triumph east vein has been opened by a shaft 100 feet deep with drifts 250 feet on the 100-foot level. There

The introduction of electricity into the mines of Rossland has been a step in advance of all the other camps in the country. This was rendered possible by the construction of the Bonnington Falls electric works. Although 32 miles distant from Rossland, a satisfactory service is maintained—so much so that electricity is not only fast superceding all the other forms of power in mining work, but is being applied to branches hitherto considered outside its range. For

. No. 1 Mine (B. A. C.)

instance, a 300 horse-power induction motor operates the War Eagle hoist, also the 40-drill compressor, besides lighting up the mine. At the Big Three mine a 100 horse-power synchronous motor drives the 7-drill compressor. At the Iron Mask a similar motor is installed, while at the Gertrude is a 50 horse-power induction motor operating the hoist. In other mines not already using electric power, preparations are being made to have it installed. Besides supplying power and light to the mines there are several motors, ranging from one to five horse-power, in operation in different industries in Rossland and public and private lights are also furnished from the falls. During daytime the power and lighting circuits are operated in parallel, although they are separated and operated independently from the power-house by night. The War Eagle hoist, however, is operated on an independent current by day, but at night it is cut into the power current at the Rossland sub-station. At present the sub-station contains six 250-kilowatt step-down transformers, but six others of equal capacity are being installed with a new 1,500-kilowatt generator to meet the increasing demands on the service.

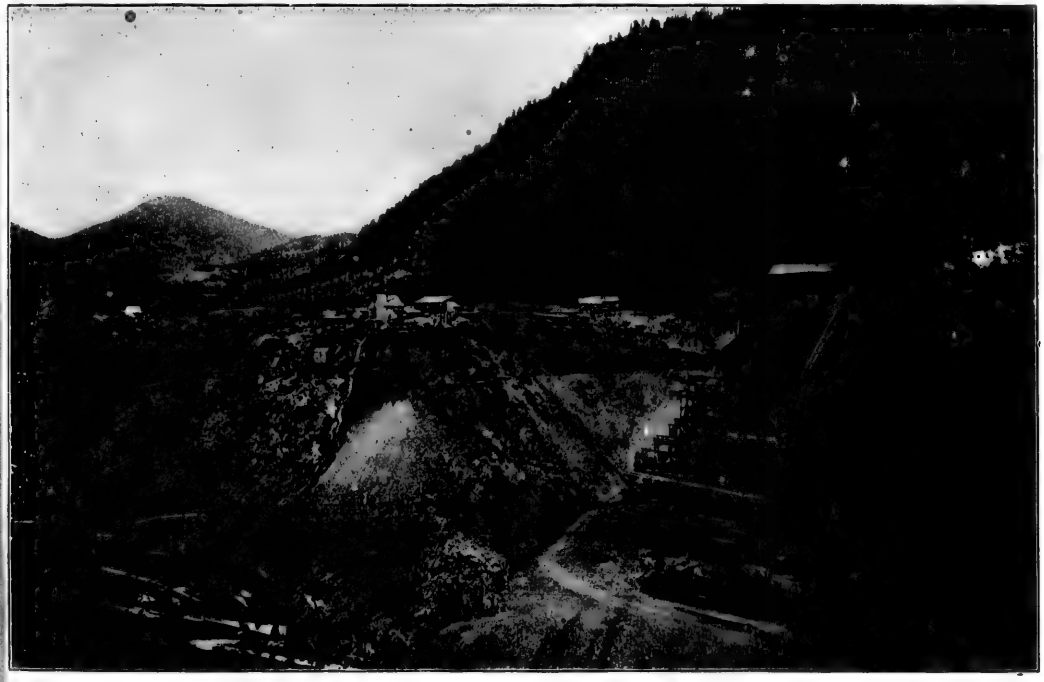
The works of the British Columbia Bullion Extracting Co. are situated on the Red Mountain Railway, near Rossland. The location is all that can be desired for the economic handling of ore, and great things are expected from the plant. The company is a private one with a capital of £40,000, having its head office in London, Eng. For the treating of ore the Pelatau-Cluici system is that adopted by the company, and it is claimed for it that very low grade material can be handled with profit. Up to a very recent date nothing less than $16 or $18 ore could be treated in the Rossland camp so steep were the freight and smelter charges. In this particular a decided improvement has taken place since the C. P. R. people acquired the railway and smelter interests of Mr. Heinze: the rates have been about halved. There is, however, a lot of ore in the camp which will not stand even the reduced rate. By the Pelatau-Cluici system this material can be handled at a respectable profit, and hence the advent of the British Columbia Bullion Extracting Co. is hailed with delight in Rossland. If the new process proves to be what is claimed for it, it will give a still greater impetus to mining in the district. For about a year laboratory experiments supplemented by practical working have been carried on at the works and definite conclusions arrived at. As a result the management announce that every difficulty has been overcome, and that they are now open for business. The company are said to have spent $150,000 in erecting the present plant and conducting the experiments alluded to.



Monte Cristo Mine, Rossland.

THE STANDARD.

In presenting our big July illustrated number, a word of explanation may not be out of place. The work goes from our presses as the "annual" of the Kootenay Mining Standard, although the publication has not really been before the public for twelve months. The Standard made its debut at Nelson in October, 1898, and a few months afterwards the plant was moved to Rossland, as the mining metropolis of the Kootenays. That it has grown in popularity and usefulness the present number is respectfully submitted in evidence. The rapid growth of the mining industry in this province, and particularly in the Kootenays, called for a journal exclusively devoted to honest mining interests: the Standard was launched to supply the want. True, there are a number of weekly and a few daily papers published in the Kootenays in which considerable space is devoted to mining matters, but with all due respect to these excellent productions their best efforts are put forth on behalf of the particular districts in which they are issued, often to the exclusion of equally important mining news from neighboring camps. Then, again, the ordinary newspaper has to cover a big field—it is looked to to supply all sorts and conditions of news, and the demands upon its space are so numerous that however well disposed the publishers may be full justice is seldom accorded to the great mining industry, apart from its purely local bearing. Under these circumstances a journal such as the Standard, exclusively devoted to mining interests, has a mission peculiarly its own, and that the ground is faithfully and honestly covered is the verdict of all who have expressed themselves on the subject. That our efforts are appreciated is testified to by the ever-increasing circulation of the Standard, and hence we are encouraged to produce our present big number and incur the heavy expense incidental thereto. The issue is 10,000 copies, and we are convinced that great good will result to the province as a whole and the Kootenays as the most important part, from this circulation. To further give honest prominence to the immense resources of this favored district, we have arranged for the reproduction of the Standard in London, Eng., where another 10,000 copies will be available for all who wish to know more of the country, whether as a field for safe investment of capital or as a desirable place to settle in. Our illustrations set forth the beauties of the Kootenays as well as their natural wealth, while the greatest care has been exercised that nothing with the slightest tendency to exaggeration or misrepresentation appears within the covers. It is somewhat unfortunate that many sections of the province have had a "boom." Mining values were inflated, "claims" and "prospects" were stocked and put upon the market before any attempt had been

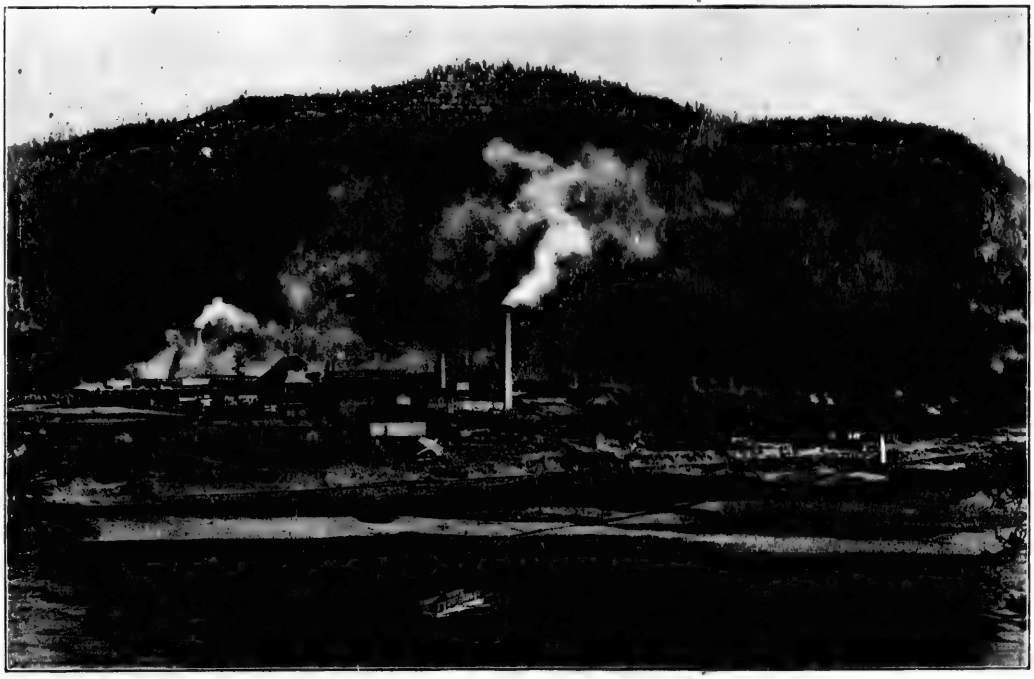


British Columbia Bullion Extracting Co.'s Works, near Rossland.

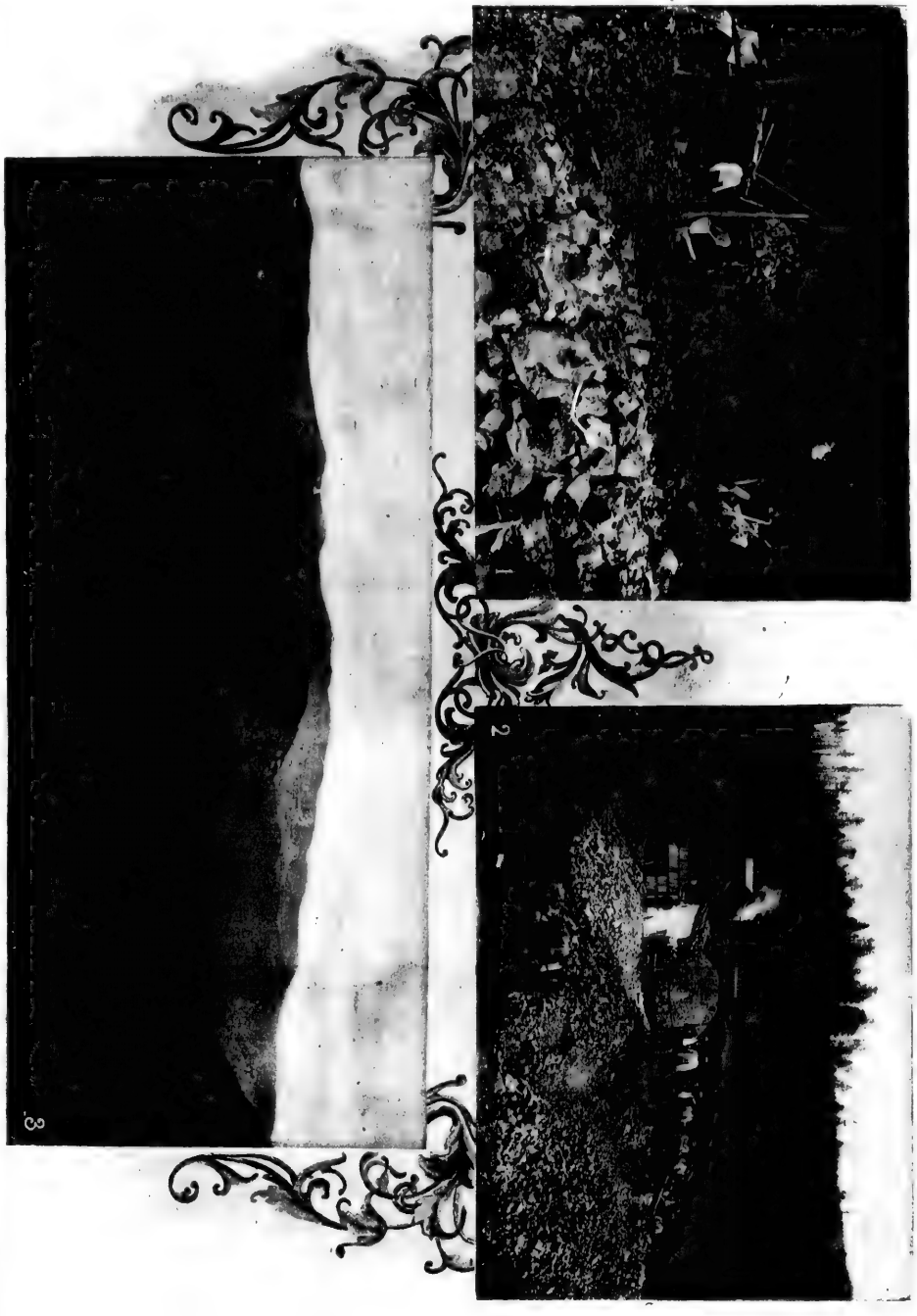
made to practically test their worth, and the dangerous "wild-cat" managed to roam around preying on the unwary. Very many were thus victimized and have bitter recollections of the boom days. All this has very happily changed, and mining is now carried on as any other legitimate business. The plain truth about the mineral wealth of this country is all that is necessary—exaggeration and misrepresentation are a positive injury. In their anxiety to gain an enviable prominence for their properties many promoters are disposed to "square" matters with the press. In this particular we wish it to be distinctly understood that not a line in the Kootenay Mining Standard is paid for by any individual or corporation—save, of course, our legitimate advertising pages, and in no instance have those who thus patronize us received any consideration to which they are not justly entitled. This has been the policy of the Standard all along, and shall ever continue to be its principle. We are thus in a position to handle our mining news without fear, favor, or affection, and if we do err, our readers may be assured it is not for reward.

The Standard enjoys the unique position of having the endorsation of the various municipalities and public bodies throughout the entire district in which it operates. Our special agents and artists have been over the ground, gleaning the latest information and taking the most representative views. The result of their labors we now submit having spared no expense to present their work in the best possible style. While we do not profess to have visited every property in the Kootenays, we claim that the particulars herewith furnished give a correct idea of the country in its present stage of progress. In some instances bad weather or the difficulty of getting at mines prevented our artist from securing desirable views. We endeavored to fill in those blanks in our programme by requesting the managers of such concerns to forward photographs, and where these were available they were promptly sent on, but in many cases the delay in securing the views has been such that we have been reluctantly obliged to hold them over for some future occasion.

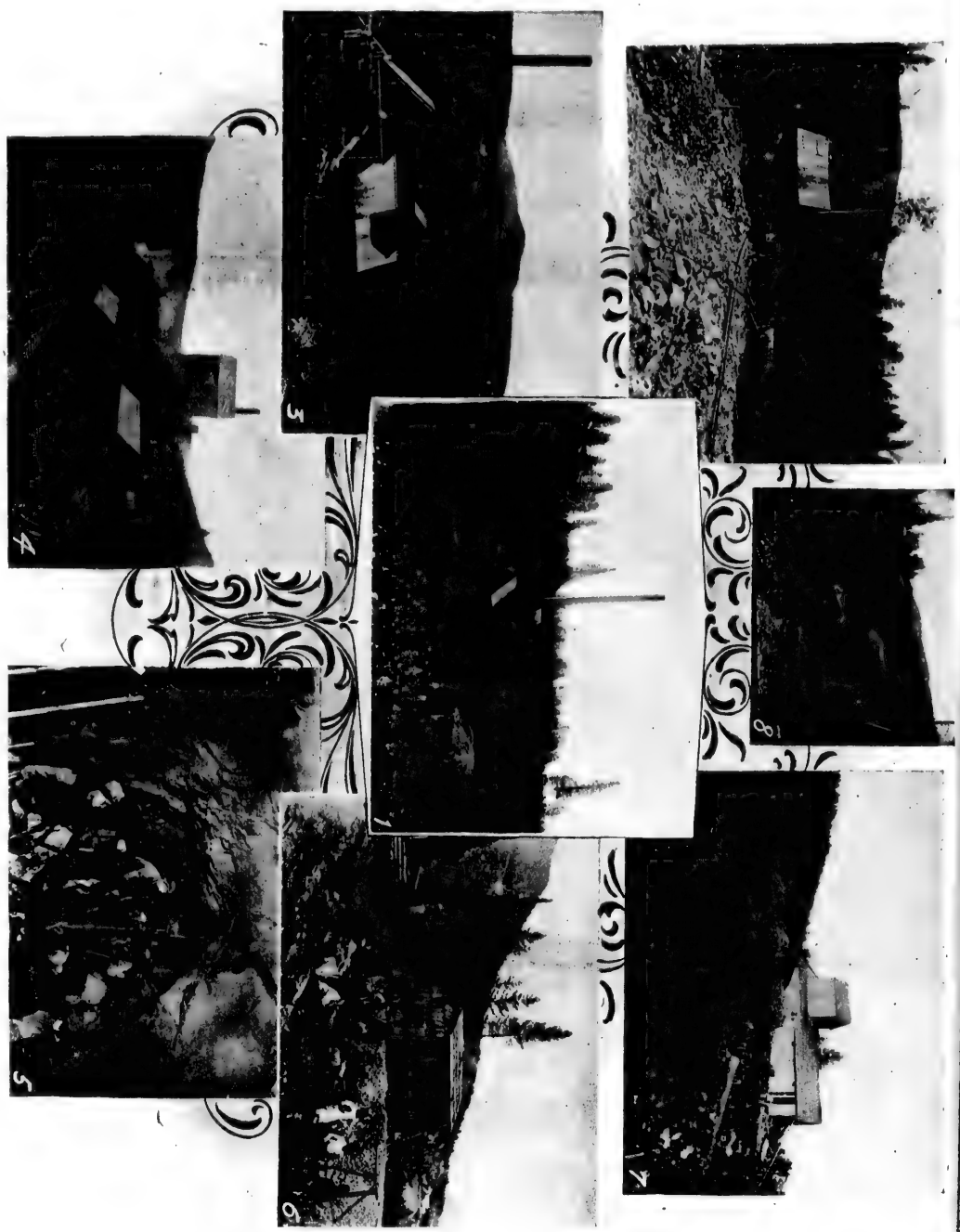
As will be observed, some of our views were taken while the snow was on the ground, our object being to give friends in other climes an idea of what Kootenay is like in winter. The snowfall in some districts is heavy, but it is as essential to successful mining operations in particular places as it is to the growth of crops in the most favored regions of the world. Over the glistening white surface the miner glides his supplies on sleighs or raw-hides his minerals down the mountain slopes to be carried to market. Then with the dawn of spring the mountain streams begin to play adding volume to such grand lakes and rivers as we illustrate.



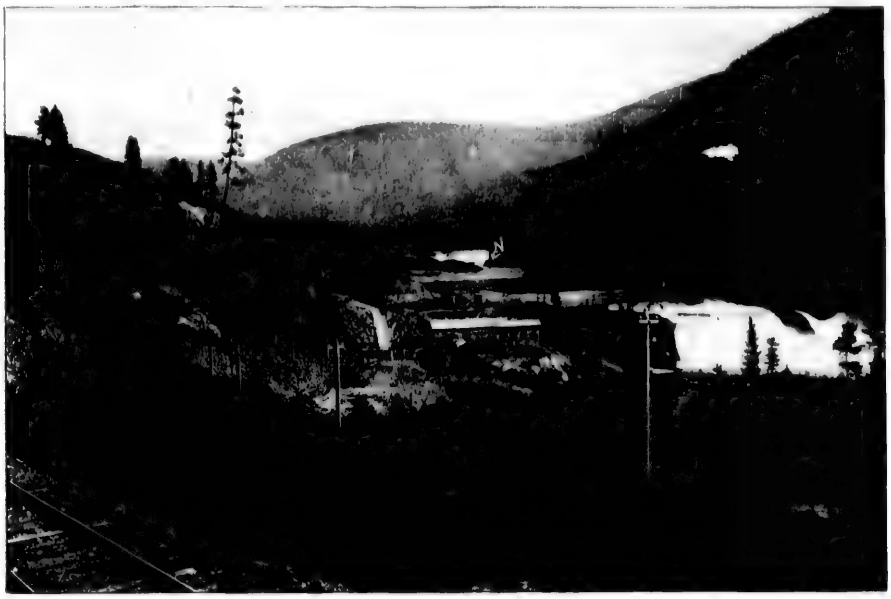
Le Roi Smelter, Northport.



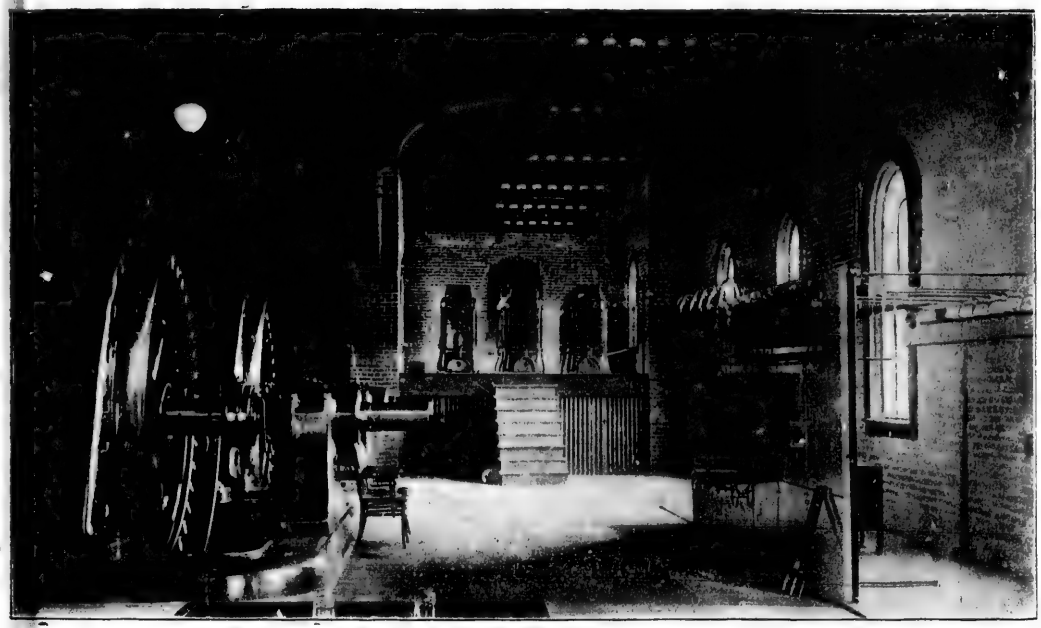
1. Victory-Triumph Mine. 2. Velvet Mine. 3 Big Sheep Gully from Velvet



1. Lily May Mine. 2. Gopher Tunnel. 3. R. E. Lee Mine. 4. Homestake Mine. 5. 350-foot Level, Sunset No. 2. 6. Abe Lincoln Mine. 7. Deer Park Mine. 8. Commander Mine



Electric Power-house, Bonnington Falls.



Interior View of Power-house.

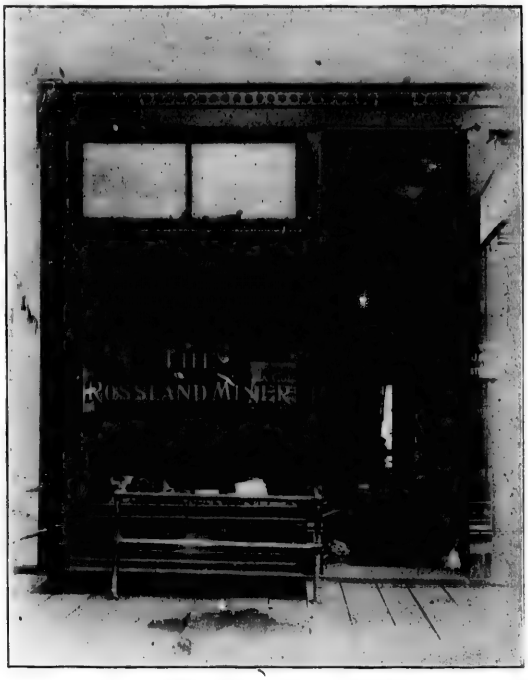
unset No. 2.

CITY COUNCIL, ROSSLAND.

1. J. L. G. Abbott, City Solicitor; 2. W. T. Oliver, Mgr. Bank of B. N. A., City Banker; 3. A. S. Goodeve, Mayor; 4. Ald. J. F. McCrae, 5. Ald. C. O. Lalonde, 6. Ald. J. S. Clute, 7. Ald. J. E. Hooson, 8. W. Harp, City Assessor; 9. W. McQueen, City Clerk; 10. D. Guthery, Chief Fire Dept.; 11. Ald. John Edgreen.

BOARD OF TRADE, ROSSLAND.

1. J. Fred Ritchie,
2. Richard Marsh,
3. Ross Thompson,
4. J. S. C. Fraser, President, Mgr. Bank of Montreal,
5. Wm. Dunn,
6. A. S. Goodeve, Mayor,
7. L. D. Webber,
8. J. B. Johnson,
9. John M. Smith, Manager Bank of Halifax,
10. J. S. Clute, Jr.,
11. C. R. Hamilton,
12. David Dickenson,
13. Dr. E. Bowes,
14. John McKane,
15. Archie Mackenzie,
16. S. T. Langley,
17. Hon. T. M. Daly,
18. J. F. McCrae,
19. C. O. Lalonde,
20. W. T. Oliver, Mgr. Bank of B. N. A.,
21. H. W. C. Jackson, Secretary,
22. James Martin, M.P.P.,
23. C. B. Barker, Mgr. Bank of Toronto.



Acrostic.

KOOTENAY, fair Kootenay, thou once despised "Sea
Of Mountains," what unbounded wealth is held in store by thee
On every peak, in every dale, in stream and river bed,
Thro' ravines drear in ages past by mighty waters fed,
E'er Nature heaved that thunder sigh, the dread volcano's roar,
Nor ceased to belch her burning wrath till mount 'pon mount did soar
Away into the viewless air, each peak still high and higher—
Yea, seeming if to heaven's height the topmost would aspire!

Majestic in thy grandeur,—a nation's hope and pride,
In every hill and valley thy golden riches hide;
Not in our empire's diadem a brighter gem than thee
Is found to mark an epoch in a glorious destiny,
Nor thrill with joy thy favored sons whose priceless heritage
Gladly yields its treasures up and will from age to age.

Stand forth, thou glorious Kootenay, in all thy grand array,
Tower up ye snow-capped mountain peaks to welcome dawning day,
Arise ye drooping forest kings, ye slumb'ring zephyrs wake,
Nerve up thy strength ye rippling brooks, swell full thou beauteous lake,
Deep down ye surging gorges sweep your foaming waters 'long,
All join, ye works of Nature, in the joyous, jubilant song:
Rich Kootenay! Fair Kootenay! Thou favored spot on earth,
Decreed a royal heritage when bounty gave thee birth!

NELSON.

Charmingly situated on the shore of Kootenay lake lies the city of Nelson—commercial metropolis of the Kootenays. The townsite was located in 1887. It was then recorded as Salisbury, but subsequent investigation proved that the very ground upon which the city now stands was practically a government reserve. The place was also known as Stanley—a name given to it by another of its pioneers. After considerable disputation, it was decided that the embryo city should be duly recognized as Nelson, in honor of the then lieutenant-governor of the province. The discovery of rich mineral deposits on Toad Mountain and neighboring creeks was that which attracted the first settlers, but geographically situated as Nelson is, its advantages as a distributing point were quickly realized, and as the surrounding country commenced to be opened up enterprising business men brought in their merchandize, for which they met a ready demand.

The first general store started in Nelson was in a shack which stood on the site of the present provincial jail. It was run for a time by Denny & Devine. They were bought out by R. E. Lemon, who is still one of Nelson's most popular citizens, and J. Fred Hume, now Minister of Mines for British Columbia. So eager were men to get into business in the Nelson of those days, that many "stores" were conducted under canvas. To-day no city or town in the Kootenays can boast of a better class of business blocks, public buildings, private residences or a more prosperous and contented people than can the beautiful city on the west arm of the most picturesque sheet of water in the country. Nelson was incorporated in 1897, the first mayor being John Houston. The passage of a fire limit by-law did much to ensure a better class of building than usually runs up in a new western town. It is claimed that the present population of the city is in the neighborhood of 6,000, and it is constantly growing. Nelson does a big trade with the towns all along the lake, and in addition to being in a rich mineral belt, enjoys the advantage of having several other industries to swell the pay roll. Here the Hall Mines Smelter is operated; the Slocan Ore Purchasing Co. are erecting large sampling works; a franchise has been granted for the erection and operation of gas works, also for an electric street car service; the largest saw and planing mills in the Kootenays are here at work, employing about 100 hands; the Kootenay Cigar Manufacturing Co. are turning out their fragrant smokes as quickly as a score of experienced men can roll them into shape; three brick yards are in full swing moulding the material which is to further build up a model city; wholesale houses are as busy as can be packing freight for the numerous steamers that ply on the lakes and for outside camps, while the retailers of the city are all doing a good business. Nelson is a busy spot. It is also the judicial centre for Southern Kootenay. Two railway systems connect with the city, and a third—the Crow's Nest Pass

View of Nelson

STREET SCENE AT NELSON.

line—will be there next year.

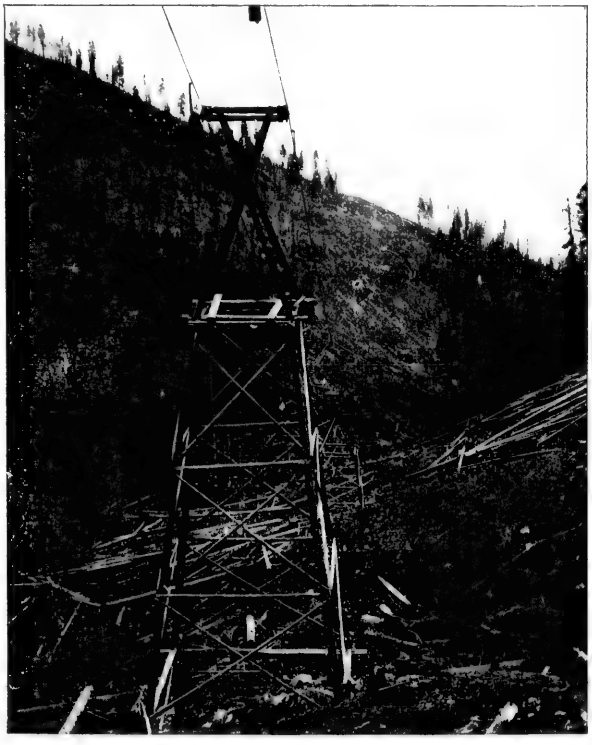
The Hall mines are to Nelson what the Le Roi is to Rossland—the pioneer property. Two prospectors, father and son, named Hall, were the original locators of the mine. And the discovery was pretty much the result of accident. Having put in a laborious day on the mountain slope, they set their horses loose to browse about, while they themselves sought repose. Next morning they proceeded to round up their stock, when one of the animals was found pawing at some peculiar looking material. This was found to be rich float of peacock copper ore. The find altered the program, as the intention was to shift camp that day. A diligent search for the lead was rewarded with success. It was found a short distance off, and proved to be of exceptional richness. A shipment of twenty tons, the first made, is said to have netted $8,000. The property was subsequently sold to an English syndicate, who under the title of the Hall Mines, Ltd., have since successfully operated it. Within the past two years the mine has paid dividends amounting to 15 per cent. on ordinary stock and on preferred stock 7 per cent. has been declared for several years. Besides, a great amount of development work has been done and up-to-date machinery installed. A smelter has also been erected out of the profits of the mine, having a copper blast

KOOTENAY LAKE AT NELSON

Interior View, Hall Mines Smelter.

furnace with a daily capacity of 280 tons, silver-lead furnace with a daily capacity of 100 tons, two large calcining furnaces, and two reverberatory furnaces. In addition to treating the ores of the Hall Mines, there is considerable custom work done at the smelter.

But the Hall Mines are not the only mines in the immediate vicinity of Nelson.



Tramway, Hall Mines.

The Dandy group is a big property which is rapidly pushing its way to the front. It was but recently acquired by an English syndicate, the members of which are also interested in the Athabasca. Arrangements have been made to thoroughly work the property.

The Last Chance is another of the properties at Nelson which is entitled to special mention. It is a copper proposition. English capital has also been introduced here to further develop the Last Chance, and the necessary work will at once be done to make the mine a dividend payer.

The California, on the northwestern base of Toad Mountain, is a free milling proposition. Work so far has been very satisfactory, and it is to be continued. Indications are that the California will soon be a dividend payer.

The Venus is a property which has recently come to the front. It has been bonded by a Toronto syndicate. A 4½ foot vein of free milling ore has been uncovered, which is traceable for a considerable distance.

The Athabasca, on Morning Mountain, is a well-developed property. A 10-stamp mill was put up last fall, and the ore treated has

419131

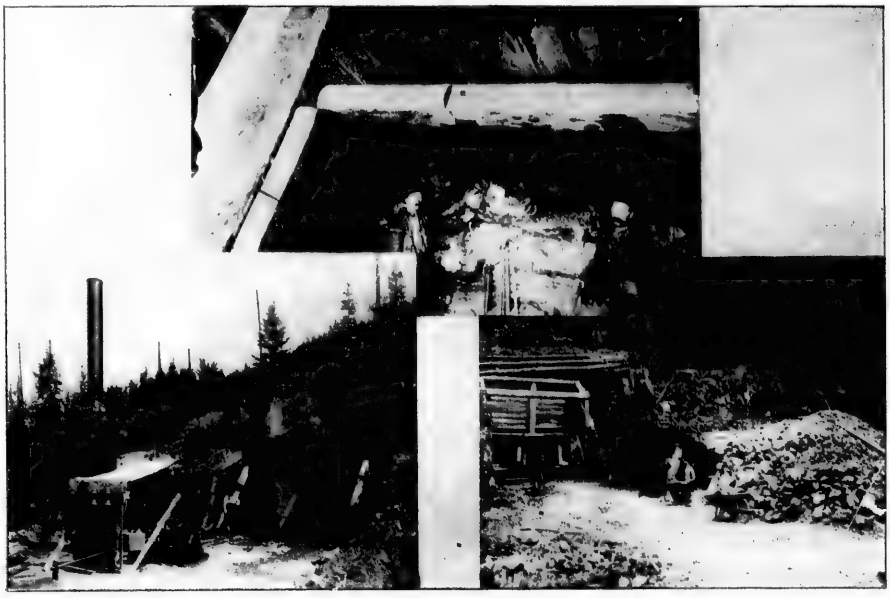
Silver King Tramway, Hall Mines. Store House, Silver King. Silver King Settlement.
Water Scene, Silver King. Hall Mines Tram to Smelter.

yielded over $20 per ton. A great body of this material is in sight, and is being systematically worked. Athabasca gold bricks are now produced with refreshing regularity.

Between the California and the Athabasca lies another great property—the Exchequer—on which some highly satisfactory work has been done. Two veins have been traced the full length of the property, running east and west. A shaft has been sunk 75 feet which is connected with an upraise of some 27 feet. At the bottom of the shaft four feet of high grade ore was encountered, which carries through the upraise. Values run as high as $302, but a fair average would, perhaps, be $60 per ton. There are about 200 tons of ore on the dump, 75 tons of which is first class material. Stoping has begun so that the mine may soon be expected to join the list of regular shippers.

The Granite and Royal Canadian groups, on Eagle Creek, are being operated by the Duncan Mines,

Early Shipments, Hall Mines.



DUNCAN MINES, NELSON.

NO. 3 TUNNEL, ROYAL CANADIAN (DUNCAN MINES).

Ltd. These properties were bonded by the company two years ago, and having expended some $50,000 in development work, the bond was taken up. They are free milling propositions. On the Granite are two shafts, both in good ore, while the Royal Canadian is being worked by tunnels. A 20-stamp mill is to be erected on the ground, and with careful management and every facility for economical working the Duncan Mines will soon be paying dividends.

On the same creek is situated the Poorman, also free milling. A 10-stamp mill has been in operation here for some time, and is being worked with good profit.

The Fern mine, at Hall Siding, a few miles from Nelson, is another well-known mine, and a dividend-payer. A 10-stamp mill and clorination plant treat the output. The company has been reorganized of late with increased working capital the intention being to more extensively work the mine.

At the Lone Pine, also located at the Siding, a rich strike recently made gave $90 in gold, and of this material there is a big body.

An adjoining property, the Empress of India, is showing up well. For about 100 feet the ledge has been stripped and definitely traced. Work is proceeding.

DANDY MINE, NELSON.

CITY COUNCIL, NELSON.

2. H. G. NEELANDS, Mayor.
3. W. K. STRACHAN, City Clerk.
1. J. A. KIRKPATRICK, Alderman.
4. F. FLETCHER, ,,
5. C. HILLYER, ,,
6. A. L. MCKILLOP, ,,
7. Assistant City Clerk.
8. C. W. DILL, Asst. City Eng.
9. W. R. JARVIS, Chief of Police.
10. W. J. THOMPSON, Chief Fire Department.

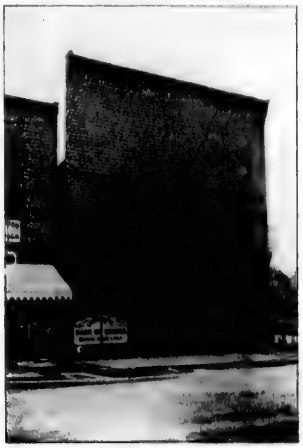
The Flying Dutchman, on Hall Creek, has had considerable work done on it, and with very encouraging results.

The Mascot, Red Rock, Julius Cæsar, Rebecca, and several other very promising properties on Toad Mountain are being developed. In the Nelson district generally mining operations are active. Never before in the history of the district has there been so much practical interest taken in its mining development. And Nelson is the one section of the Kootenays that has never had a "boom." Something over a year ago, when booming was quite the fashion, a few over-enthusiastic individuals, for reasons best known to themselves and strongly hinted at by others not in the secret, attempted to import the contagion, but it did not take. The nuggets said to have been so plentiful on a local creek were too big—too numerous; in fact investigation proved that they were not there at all. It did not take long to investigate and burst the bubble before it had time to do harm.

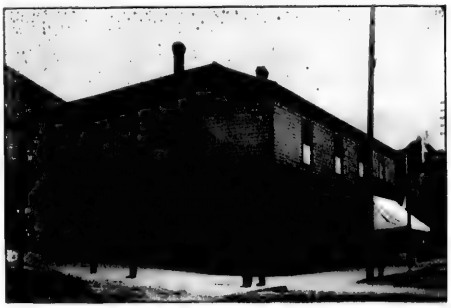
COUNCIL, NELSON BOARD OF TRADE.

2. J. R. Robertson, President; 7. H. J. Evans, Vice President; 1. F. W. Swanell, Sec.; 4. T. G. Proctor, 5. F. Fletcher, 6. W. A. Macdonald, 8. G. V. Holt. 9. A. E. Hodgins, 10. C. Hillyer, 11. M. DesBrisay.

First C. P. R. Train from Nelson for Slocan.



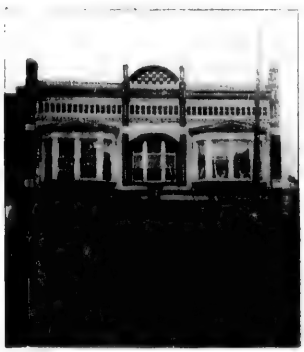
IMPERIAL BANK OF CANADA, NELSON.



BANK OF B.C., NELSON.

BANK OF MONTREAL, NELSON.

MINER OFFICE, NELSON.



BANK OF HALIFAX, NELSON.

SLOCAN CITY.

Slocan City, at the foot of Slocan Lake, is a beautiful town, and one which had a very lively boom a couple of years ago. For the past twelve months no great mining activity has been apparent in the immediate district, although 596 records of assessment were made in 1898, which goes to show that those who hold claims at least have faith in them. Practically the only two properties continuously worked by strong management have been the Enterprise on Ten-mile Creek and the Golden Wedge on Lemon Creek.

The mineralized portion of the Slocan City division lies chiefly in granite—the two main varieties of veins being (1) dry ore quartz, carrying values in gold and silver, associated with iron pyrites and silver sulphides, and occasionally free gold and silver; (2) wet ores, carrying only silver and lead values associated with zinc blende.

The Golden Wedge is 2,000 feet above the new town of Oro, at the junction of the second North Fork with Lemon Creek, and some five miles of wagon road and twelve miles of sleigh road have been built to connect it with Kootenay Lake and Nelson. The property is owned and operated by the British Canadian Gold Fields, Ltd. Considerable development has been done, proving the ore body to be a free-milling quartz. A sleigh-road connects the mine with the town site of Oro, where a saw-mill, assay office and 10-stamp mill are in operation.

On Ten-mile Creek is the Enterprise group, consisting of two claims and a fraction. This property has recently changed hands at a respectable figure. Up to June last 460 tons of ore was shipped. A great body of good material is in sight, a continuous chute being traceable for some 3,000 feet.

The Evening Star, on Dayton Creek, has had a lot of exploratory work to its credit. New machinery has been installed, the intention evidently being to continue operations. A good quartz vein with silver sulphides and pyrites is pleasingly conspicuous.

On the Arlington the main shaft is down to the 130-foot level, a station has been blocked out and drifting commenced on the vein, in which some 25 feet of concentrating ore is encountered. Farther up the hill a level is being run from the surface, for which a new car and track have been furnished. Later on a concentrator will be installed to treat the dumps and ledge matter before shipment. The property is being actively developed, and will no doubt fulfill the expectations of its fortunate owners.

Work has been resumed on the Calumut and Hecla. Before they were forced out by water in the spring they had driven a 280-foot cross-cut tunnel.

The Skylark and Ranger are again receiving attention, and the outlook is reported good.

The Chapleau has already made a name for itself as a gold producer, and now that work has been resumed in earnest great things may be expected from it.

Preparations are being made at the Black Prince for shipping ore.

The Two Friends people have settled down to work again, and will once more bring this great silver property to the front.

FAMILY GROUP, KOOTENAY INDIANS.

The Town of Trail.

TRAIL.

The town of Trail is beautifully situated on the Columbia River at the mouth of Trail Creek, and is one of the oldest settlements in the Kootenays. It owes its present prominence chiefly to the big smelter located there in 1896 by F. Aug Heinze, and its connection with the mines of Rossland by a narrow guage line of railway, recently standardized. The smelter and railway have been taken over by the Canadian Pacific Railway Co., the works considerably enlarged and improved, and a substantial reduction made in freight and smelter charges—indeed the charges on certain classes of ore are lower at Trail than in either Colorado or Montana, where competition is particularly keen. Since the opening of the Crow's Nest Pass railway, coke is now procured from that quarter at a much lower cost than when the supply came from the Coast, and it is a much superior article. With increased facilities for handling ore, the output of the Rossland camp can now be treated at Trail cheaply and expeditiously. Loaded cars from the mines (with the exception of Le Roi, whose output is dealt with at Northport) are constantly being run to the smelter, to which additions are being made so as to keep up with the ever-increasing demands. At present the capacity of the smelter is about 500 tons per day.

There are numerous rich prospects in the immediate vicinity of Trail, but none of them are being worked to any great extent.

The smelter is the mainstay of the town. It gives constant employment to close on 300 men, all of whom live in Trail. There is also a great number of men engaged on the railways and in the steamship service, so that the pay-roll is very considerable, and the local merchants do a good business. Now and again the question of incorporation is agitated, but as yet the good people of Trail have not agreed that their affairs would be more economically or satisfactorily managed by a mayor and board of aldermen than they are at present. However, the town is gaining in population and importance, and must soon become a city. Its newspaper does a good service.

Trail Creek News.

te vicinity of
em are being
extent.
e mainstay of
constant em-
300 men, all
. There is also
en engaged on
the steamship
ay-roll is very
ne local mer-
siness. Now
on of incorpor-
as yet the good
of Trail have
eed that their
would be more
ically or satis-
y managed by
r and board of
en than they
present. How-
ne town is gain-
population and
ance, and must
become a city.
vspaper does a
ervice.

The Smelter, Trail.

Roast Heap, Trail Smelter.

Furnace Building, Trail Smelter.

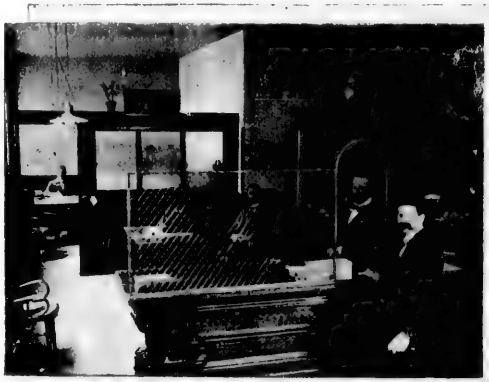
SANDON.

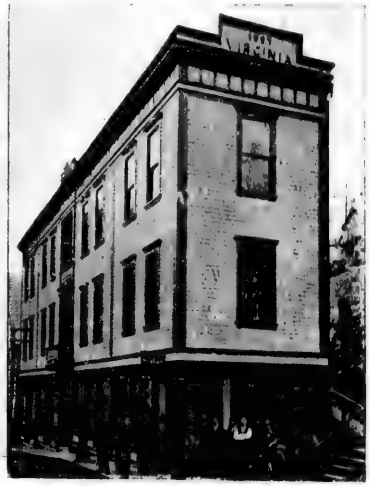
Sandon is the chief mining centre in the Slocan district. The town site is by no means an ideal one—at least as a residential quarter, but for business purposes it is as compact as could be desired. Sandon is essentially a mining town, built into a little valley between mountains of mineral towering skywards over 3,000 feet. The richest silver-lead mines in the province are here in operation, and when all are in full blast the town presents a very animated scene. A good waterworks and electric light system are among the evidences of progress which one would scarcely expect to find in a little mountain city 3,500 feet above sea level, so recently added to the family municipal. The interests of Sandon are well looked after by the mayor and board of aldermen—the pleasing group to be found among our illustrations. A novelty about the town, peculiarly its own, is the—shall we call it recreation ground? Well, it serves the same purpose. It is a large wooden shed on the main street and is utilized for all the games of the season. In the summer evenings lawn tennis is played on the roof, while cricket engages the attention of its votaries beneath. It is a skating rink in winter, and when the ice disappears the once frozen surface becomes a football ground,—in fact as a structure of general utility the shed in question enjoys a monopoly.

Street View, Sandon.

The Noble Five was about the first of the big mines located at Sandon. This was in 1890, and although it was not baptized in blood, it was very nearly so. Jack Seaton and the Hennessy brothers were the locaters of the claim, and returning to the Hot Springs, then their head quarters, they told of their lucky find. One of those who heard the story started off, taking a circuitous route, to the scene, intending to "jump" the claim; but Seaton and his partners had their suspicions aroused and managed to get on the ground before the would-be jumper. Pistols were drawn on that occasion, but fortunately were not fired.

The following year the Payne, R. E. Lee, Last Chance, Slocan Boy, Slocan Star, Washington and





Interior and Exterior Reco Office, Sandon

Reco Mines, Sandon.

some other claims that have since turned out wonderful mines, were located. In 1894 silver reached its top notch, and this gave a great impetus to the silver mines of the Slocan. Sandon began to boom. The same year fire and water played havoc with Kaslo and other lake towns. In 1895 the building of the Kaslo & Slocan Railway was started and in September of that year the first train puffed into Sandon. The C. P. R. now runs into the city, connecting it with Slocan Lake points.

The Payne is, perhaps, the greatest of the great mines of Sandon. For years it had been run by a close corporation, and the public generally knew little of it beyond the fact that the dividends paid were greater than those of any other mine in the province, amounting to close on $1,000,000. Since, however, the property has fallen into the hands of the Payne Consolidated, principally composed of Montreal capitalists, more is known of it. The dividend of 1 cent a share, declared in March last, brings the total paid up to $1,025,000. For the first six months this year the mine shipped 4,930 tons of ore. Last year the total was 14,000.

The Last Chance has contributed 1,505 tons to the ore shipments of Sandon for the first six months of this year. For the year 1898 the shipments totalled 1,700. The mine is fully equipped for business, and has already paid dividends amounting to $37,500.

The Slocan Star has attained a depth of about 1,000 feet, and is

No 3 Tunnel Shed and Ore House, Reco Mine.

RAW-HIDING ORE.

still in good ore. Besides, there are nearly 3,000 feet of tunneling and 1500 feet of upraises and winzes. For the first half of the current year 460 tons of ore has been sent out ; shipments for 1898, 2,862 tons; dividends paid, $400-000.

The Treasure Vault is doing good work. It has joined the list of regular shippers, and has sent out 111 tons of ore for the half year ending June 30, last.

The Ruth last year shipped 3250 tons of ore. Upwards of 3,000 feet of tunneling has been done at the mine and 2,000 feet of upraises and winzes. A mill and tramway are being added to the equipments. The Ruth has paid dividends to date amounting to $450,000, and will no doubt continue a substantial dividend payer, as every effort is being made to still further increase the output and earning capacity of the mine.

The Reco is another of the properties which has made the camp famous. In May, 1892, the claim was located by Mr. J. M. Harris, who in 1896 also staked the townsite of Sandon. From the very outset the mine has proved all that was expected of it. In January, 1898, the last dividend was paid, which brought the total up to $287-000. Since then they have not been mining with a view to dividend making, but rather with the object of systematic development, which always pays best in the long run. Seven tunnels have been run with numerous cross-cuts and upraises, sufficient ore being taken out to pay working expenses. A tramway and concentrator will be put in as soon as the proper stage of development has been reached. During the first six months of this year 200 tons of ore has been sent out.

The Ivanhoe has had considerable difficulty in handling the output owing to lack of facilities for shipping. However, this will be overcome as soon as the mill is ready for work. A large body of milling ore is blocked out. Eighty tons have been shipped for the six months ending June last.

Another recent addition to the shipping list is the Ajax. Its contribution for the first six months of the year was 40 tons, but a good beginning has been made, and the prospects are that a big total will have been piled up by the close of 1899.

On the Sovereign something over 1,000 feet of tunneling has been done, enabling the management to ship considerable ore.

The Trade Dollar, which has been a shipper on a small scale, is now in a position to increase its output. A recent shipment of 18 tons gave very satisfactory returns. There is a big body of ore now in sight.

The Madison group produces a high grade dry ore, of which a big body is available. Some shipments have been made, giving satisfactory returns.

A lot of development work has been done on the Goodenough, which it is expected will soon be marketing its product.

Reco Mountain, Sandon.

On the Donnelly group, adjoining the town, a great deal of work has been done, proving it to be a very promising property.

Some 1,200 feet of tunneling is the record on the Canadian group, on the divide between Carpenter and Four-mile creeks. This property is worked by the Ontario & Slocan Mines Development Co.

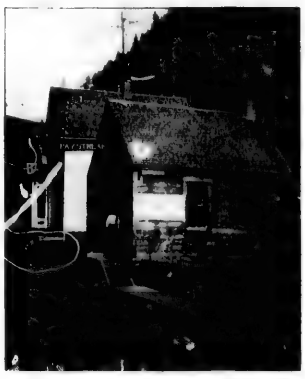
There are several other promising properties in and around Sandon, but those here mentioned will prove a fair index to the wealth of the district.

The present price of silver, and the prospects of the white metal going up in price, has encouraged the mine owners in and around the camp to prepare for an increased output. With this object in view the most approved machinery is being freely introduced to facilitate the handling and treatment of the ore.

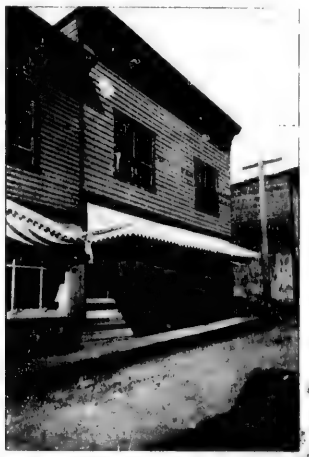
On a Prospecting Tour.

CITY COUNCIL, SANDON.

2. H. H. Pitts, Mayor ; 1. Ald. J. Buckley, 3. Ald. C. D. Hunter, 5. Ald. R. MacDonald, 6. Ald. E. Thompson, 7. Ald. A. Crawford, 4. Chief of Police.



Paystreak Office.



Bank of B. C., Sandon.

Slocan Star Tramway, Sandon

City of Kaslo.

KASLO

The City of Kaslo enjoys an enviable position on the west side of Kootenay Lake. It is one of the bases of supplies for the mines of the district. In August, 1893, the town was incorporated, the first mayor being Mr. Robert T. Green, now the representative of the riding in the Provincial Legislature. At that time the city was in a flourishing condition, the mining activity securing for its merchants and general traders a lively business. In February the following year fire and flood almost swept the place out, and since then Kaslo has not quite recovered itself. The building of the narrow guage railway to connect with Sandon, then attracting great attention, seems to have given the people renewed spirit, and they proceeded to re-build. To-day substantial business blocks and beautiful residences adorn the city, while a good water and electric light system add to the safety and comfort of the community. The volunteer fire brigade is well equipped and takes a great interest in the work. The boys have some 2,000 feet of hose at their disposal, two hose-reels and a hook-and-ladder truck. There are 23 hydrants judiciously placed, with a nominal water pressure of 78 lbs., but capable of being run up to 120. The city own and control the waterworks. Among the industries of the town are saw and planing mills and ore sampling works. A wharf is being built by the C.P.R which will prove a great convenience to the public, as it will facilitate the handling of freight and the despatch of a growing trade. As already intimated, there is a big mining district tributary to Kaslo, so that trade must grow in proportion to the mineral development.

The Leviathan group of eleven claims, immediately opposite Kaslo, covers the ground from the top of the hill to Campbell Creek. A good lead, 50 feet wide in places, has been traced almost the full length of the property. Two tunnels have been run, 160 and 200 feet respectively, which bring the ore body to a depth of 150 feet. At this depth the vein is some five feet wide, and gives values in gold, copper and silver netting $14. Holders of properties surrounding the Leviathan are anxiously watching progress, and may be expected to start work any day.

On the Montezuma a good deal of work has been done—sufficient to prove that a great body of ore lies beneath the surface.

On the west fork of the Duncan River, some thirty miles north of Kaslo, is the Lode Stone group of five claims. Work has been somewhat retarded for want of a wagon road, the building of which has been long agitated. Such a road would be the means of opening up a number of other good properties in the district.

The Wagner group of eight claims is very promising. A tunnel of 330 feet has been run, following two feet of ore which gives 220 ounces of silver to the ton with good values in gold and copper.

The Elephant group of four claims is showing up well. Eight inches of clean ore and four feet of concentrating material have so far re

warded the efforts put forth to prove the property.

On the Viking group they have some fine surface showings, and with but little work have struck ore yielding 400 ounces of silver to the ton.

On the Trail group 50 feet of tunneling has been done, and a 20-foot ledge of concentrating ore struck.

Seven claims comprise the Bannockburn group. A 4-foot ledge of concentrating ore has been stripped for 600 feet. This property recently changed hands for $22,000 cash, and is now being worked to ship ore.

At the West Fall group they have a quantity of ore ready for shipping.

The Lade group is showing up some rich free milling ore.

At the Bad Shot there are several cars of ore ready to be shipped. It will give 400 ounces of silver to the ton.

On the Warrior group a big body of shipping ore has been uncovered.

The Johnson group consists of eight claims, and so far as work has proceeded the prospects are exceptionally good.

At Crawford Bay there are some good properties in course of development.

The Hamill group runs east from the head of Kootenay Lake towards Windermere, and promises to be a big producer.

The Lavinia group, which was recently bonded to Col. Veits, is proving up well.

The McLoughlin and Clinton group is very favorably reported on.

On the Hanson and Weir group a 60-foot tunnel has been run in concentrating ore of high value.

On the Richardson and Pollock group they have struck two feet of clean ore at the bottom of a 40-foot shaft.

At the Hendryx the tunnel is in over 40 feet. A big body of concentrating ore is encountered.

On the Hess and Miller group a big body of ore has been struck running 116 ounces in silver, 12 per cent copper and $8 in gold.

On the Bigham and Metalic group they have an 18-foot ledge running high in gold, silver and copper values.

On the Liberty Hill group over 500 feet of tunneling has been done. They have made a couple of shipments with satisfactory returns.

The Bismarck has already shipped and is preparing to send on regularly. Close on 1,000 feet of work has been done on the property.

A shipment of seventy tons was recently made from the Black Fox, and there is more to follow.

The B. N. A. group has had considerable work done on it—tunneling, cross-cutting, etc. It yields a good concentrating ore.

The Silver Bell has also shipped, and is preparing for more.

The Gibson and Palmer group is a well developed property that will soon be shipping ore.

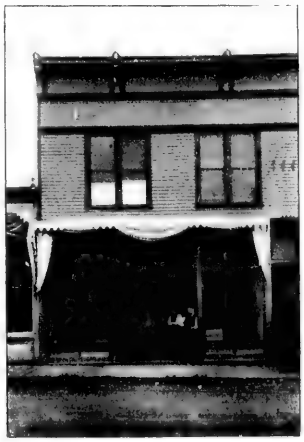
On the Cronin group good ore is being taken out in large quantities.

CITY COUNCIL, KASLO.

2. G. Hartin, Mayor; 1. E. E. Shipman, City Clerk; 4. E. D. Twiss, 5. J. D. Moore, 6. G. T. Kane, 7. W. V. Papworth, 8. S. Fawcett, 3. M. Adams, Chief of Police.

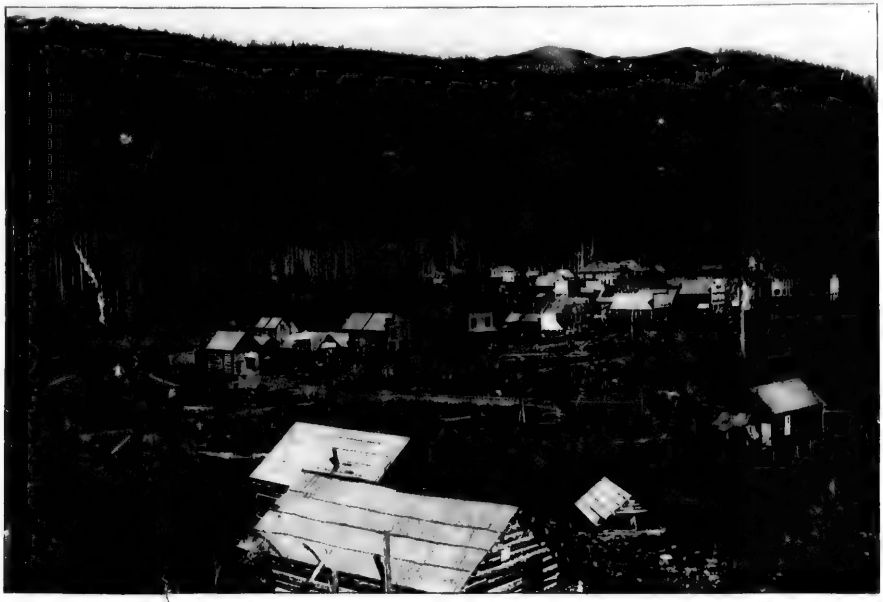
KASLO BOARD OF TRADE.

2. G. O. Buchanan, President; O. A. Sutherland, Secretary; 1. G. B. Gerrard, 4. D. J. Young, 5. A. W. Goodenough, 6. E. T. Stephenson, 7. H. Giegerich, 8. W. E. Hodder, 9. A. S. Garland, 11. J. W. Cockle.



Kootenais Office, Kaslo

Bank of B. N. A., Kaslo.



TOWN OF YMIR.

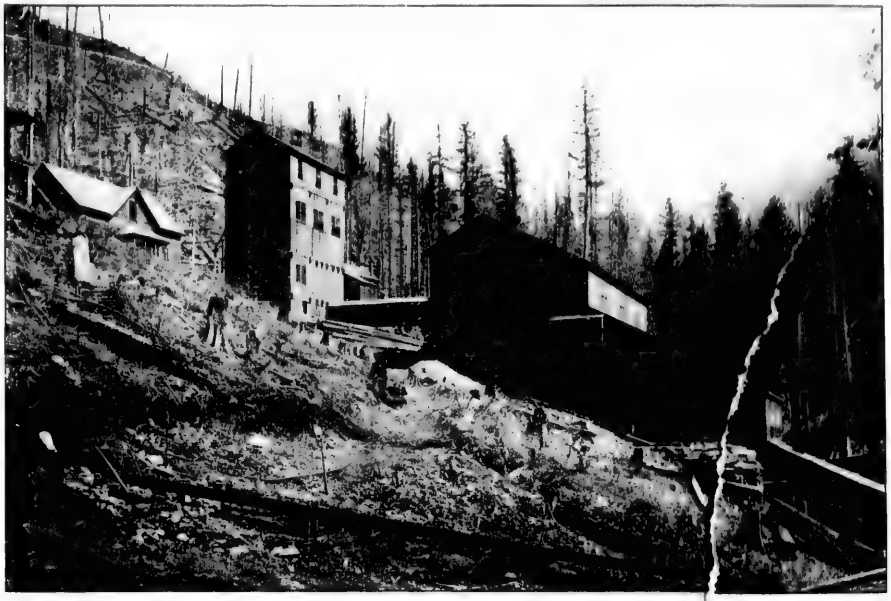
YMIR

Ymir is one of the most promising camps in the Kootenays. It was originally known as Quartz Creek—a name which was subsequently changed to that of its first great mine, the Ymir. Quartz Creek had long been known to old prospectors, but the inaccessability of the district seriously retarded its growth. With the advent of the railway a decided change for the better took place. For a time a regular "boom" was on, and when it burst things got very dull. However, business is picking up again, and the camp is steadily growing with the development of the mines. Townsite difficulties prevented the more rapid building up of the place, but nevertheless there are some very creditable structures there today, and a good foundation has been laid for what will doubtless be a big town, and that at no distant date.

The Ymir mine, owned and operated by the London & British Columbia Gold Fields, Ltd., is practically the property to which the town owes its existence, although it is by no means the only great mine there. It was, however, the first to demonstrate the richness of the mineral deposits of the district. At the mine there is a 40-stamp

MINER OFFICE, YMIR.

MERCHANTS BANK OF HALIFAX, YMIR.

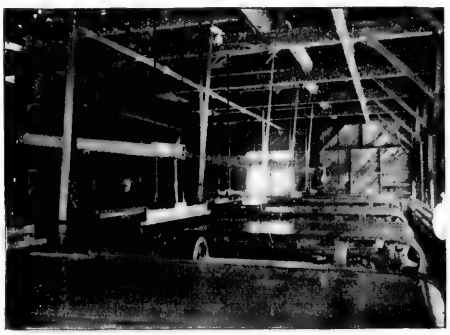


Stamp Mill and Concentrator, Ymir Mine, Ymir.

mill—the largest in the country—in operation. Last month about 3,000 tons of ore was crushed, and some 40 tons of crude material and 250 tons of concentrates shipped to the smelter at Nelson. During the preceding month 40 stamps dropping for 17 days crushed 1,450 tons, yielding 690 ounces—estimated value, $8,300; gross estimated value of concentrates, $3,000. Some 6,000 or 7,000 tons of ore are on the dump, and an immense quantity is blocked out. Extensive development work has been accomplished, revealing two very distinct chutes of high grade ore. An aeriel tramway connects the mill with the mine. On the outer ore chute the shaft is down 500 feet. It is intended to sink it 150 feet more, and then run a cross-cut tunnel, the mouth of which will be only 500 feet from the mill. A gravity tramway will then connect the mill with the mine. The mill is turning out gold bricks and concentrates with agreeable regularity, and will continue to do so.

The Dundee is a mine which has done much to establish the good reputation of the camp. It is a concentrating proposition, developed by numerous drifts and a shaft which is down over 250 feet. A 50-ton concentrator was erected last winter. Everything was in splendid working order when unfortunately a fire broke out, destroying the buildings and part of the machinery. But all has been put into shape again, and the shipping of concentrates has been resumed.

The Porto Rico has a 10-stamp



Interior Concentrator.

Interior Stamp Mill.

DUNDEE MINE, YMIR

mill in operation, which is kept busy. Everything is looking well at the mine. It is the intention to drive a fourth tunnel, so as to give sufficient stoping ground to keep the mill going.

At the Wilcox they are drifting on the ledge in two places and sinking a shaft. All work is now being done with the view to more thoroughly developing the property and as soon as this is accomplished a mill will be erected.

The Gold Reef Mining & Milling Co. Ltd., are operating the Rainy Day mineral claims on Wild Horse Creek, about eight miles from Ymir. The property is traversed its full length by two parallel quartz veins the shaft on one of which is to be continued to a depth of at least 150 feet, to prove size and dip. Both veins will be developed by adit tunnels from the east side of the mountain, which is very steep, rising to an elevation of nearly 2,000 feet above Wild Horse Creek. The ore averages $16 to the ton, and it is calculated that $8 rock would pay well.

There is great activity on Porcupine Creek. On the Big Patch the shaft is down some 15 feet, and at the bottom ore has been found to assay $32.50. Outward and visible signs are most encouraging.

The Black Cock has been taken in hands by a strong company, whose intention it is to push work. A shipment of 20 tons, recently treated at the Northport smelter, gave returns of $43.50 per ton.

At the Rio Grande the tunnel is in 115 feet, and in good ore. They are drifting on a rich vein.

The Free Silver group, consisting of five claims, is a property from which much is expected. A fifty foot tunnel has been driven cross-cutting the lead. Recent assays give 78 per cent lead, $5 in gold, 38 ozs. silver, and two per cent copper. A number of open cuts have been made on the Ruby, another of the group, which are encouraging.

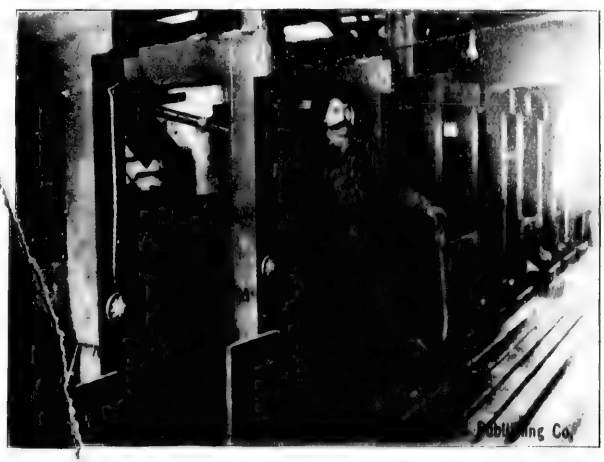
On the Gold Queen sufficient work has been done to prove the property a good one. Development proceeds.

The Big Horn group of nine claims is being worked by the Simcoe Mining & Development Co., and with good results. A 20-foot shaft reveals a good body of ore, which assays as high as $52 to the ton, but a number of pan tests have been made which go to show that the ore is pretty free milling and can be worked to advantage with a stamp mill and concentrator.

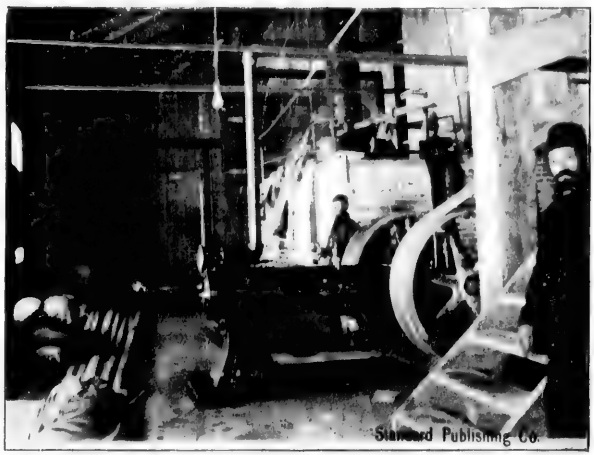
On the Nevada some good strikes have recently been made. A body of rich ore, four feet in width, has been stripped for a considerable distance. It is claimed that there is 2,000 tons of ore in sight.

The Laurel, adjoining the Nebraska on Bear Creek, has a tunnel in some 35 feet, in good ore, which assays $18.

The Iroquis group consists of five claims, and is located on Hidden Creek, about five miles from Ymir. A good deal of work has been done, including an 80-foot shaft. "Good ore, and lots of it," is the latest news from the camp.



JIG ROOM, DUNDEE.



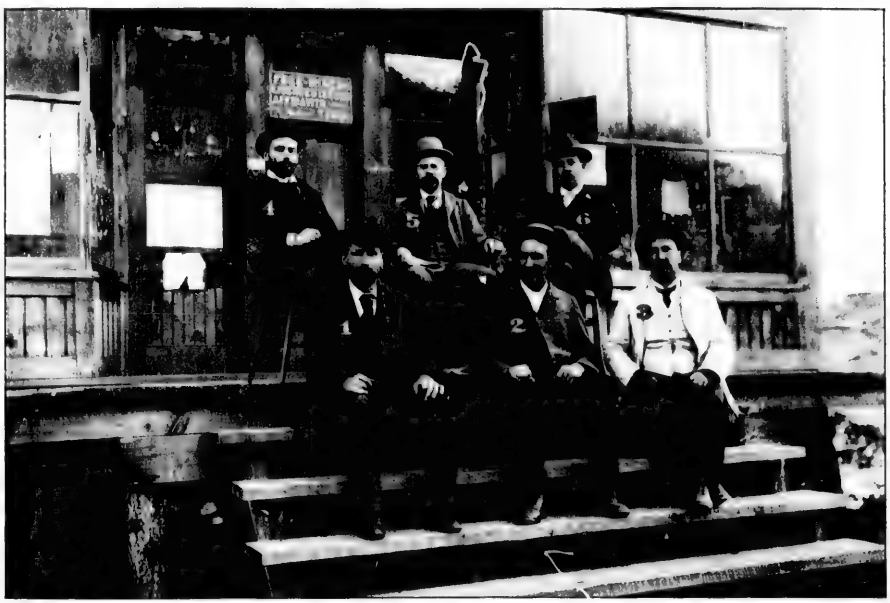
ENGINE ROOM, DUNDEE.

Adjoining the Big Horn is the Empress group. So far as work has gone it is very encouraging.

The New Brunswick Consolidated Gold Mining Co. Ltd., own three full claims on Wild Horse Creek, about one mile and a half from Ymir—the New Brunswick. Deadwood and Florence. They have a continuous quartz ledge of from 12 to 20 feet wide, yielding assays from $5 at the surface to $51 in the 300-foot tunnel. It is thought that the Tennesee vein passes into the New Brunswick.

The Tamarac is owned and operated by the Kenneth Mining & Development Co. Some ten months ago the present owners took the property in hand, and since then it has been worked almsot continuously. At an early stage of the operations there was a shipment of seven tons of ore made. This was treated at the Hall Mines smelter, and gave returns of $11 per ton. Since then considerable work has been done, with the result that a large body of ore has been located and of a higher grade. A shaft has been sunk 232 feet, from which one drift is run in a northerly direction 172 feet, and another southward, which will come out on to the surface. The output is largely free milling. At present the necessary machinery is in operation to fully develop the property, but it is the intention of the management to put in a mill and tramway.

There are dozens of other properties being developed in Ymir.



BOARD OF TRADE, YMIR

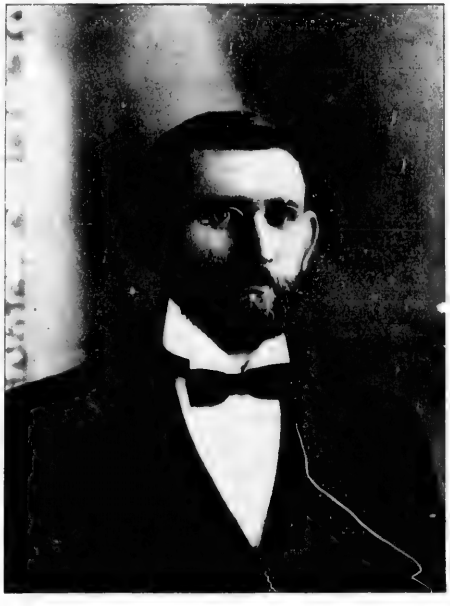
5. S. DE BRISAY, President; 4. K. E. MACKENZIE, Vice President, 6. A. B. BUCKWORTH, J.P., Secretary; 1. W. DELANY, J.P.; 2. C. F. MATHERS, 3. J. W. LAIRD.

New Denver

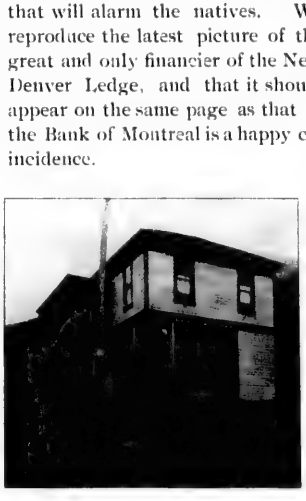
NEW DENVER.

As will be seen, New Denver is a very pretty little spot—an ideal place in which to spend a vacation or take up abode. There is good boating, fishing, shooting, mountain climbing, etc., while there is regular steamship and railway communication with outer points. The town is surrounded by good mines.

The Ledge is the local newspaper, and a capital one it is. Mr. R. T. Lowery is the proprietor, editor and financier, and his dry humour is one of the great features of the publication. He has been longer in continuous service on the Kootenay press than any other man, and has had a career "as chequered as a log cabin quilt," as he himself puts it. Brother Lowery has had "every phase of the newspaper habit from being shot at to having money." So he informs us. We believe it is Mr. Lowery's intention to emigrate to some large city and start a paper that will alarm the natives. We reproduce the latest picture of the great and only financier of the New Denver Ledge, and that it should appear on the same page as that of the Bank of Montreal is a happy coincidence.



R. T. Lowery.



Bank of Montreal, New Denver.

Office, North-West Mining Syndicate.

NEW DENVER

New Denver's greatest mine is the Bosun, owned and operated by the North-west Mining Syndicate, Ltd., with W. H. Sandiford as manager. On the 10th of June, 1898, a month's option was taken on the property, which sufficed to satisfy the manager that the deal might be closed. On the 6th September following the first shipment of ore was made, 20 tons, and before the month had closed tee total was brought up to 120 tons, which has since been the average monthly shipment. The ore runs 105 ounces silver, 50 per cent lead and 12 per cent zinc, the latter proving a valuable feature. The mine has been scientifically developed, and shows up great bodies of ore.

The Marion had some 300 feet of tunneling done when the mine closed down for winter. Since resuming the seasons work a couple of shipments have been made.

Considerable work has been done on the Royal Five, Hauney, Mollie Hughes, Convention and several other properties in the immediate vicinity of New Denver.

The Neglected is no longer what the name would suggest. Recent work has shown up well, and a little further effrot will doubtless prove up the property satisfactorily.

Some work has been done this season on the Sarah Jane, which goes to show that the property is a promising one.

The facilities for handling the ores of the camp are good.

The Ledge Office.

The Bosun, New Denver.

The Bosun Landing.

Silverton, with C.P.R. Steamer, Slocan, at Wharf.

SILVERTON.

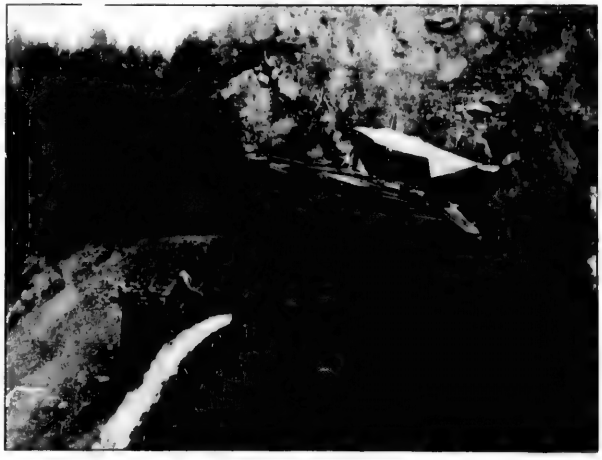
Silverton is some four miles from New Denver, and is a stirring little town, with everything to commend it as an ideal residential quarter or a good business centre. It is well sheltered, and beautifully wooded, and that the residents take a just pride in their snug little town is manifested by the willingness with which they turn out to do street and other public improvements. There are many good mining properties in and around Silverton, some half-dozen of which are regular shippers.

Little was known of the Noonday until the present management took hold of the property at the beginning of the year. There was a great deal of dead work to be done before getting fairly started, but it was got through, and operations begun in earnest. A large body of ore has been opened up for a length of over 120 feet, and is now being stoped. This ore chute is prospected 300 feet farther, and although not developed, can be traced clear to the surface, and varies from three to seven feet in width. The ore is a steel galena, carrying a large percentage of grey copper, specimens containing ruby, antimonial, and native silver not being uncommon. A large force of men is employed on the Noonday, and some six or seven tons of ore is being sorted and sacked daily. At present a small jig is at work giving satisfaction, and a large dump of second class material is fast accumulating, for the treatment of which a plant will soon be installed.

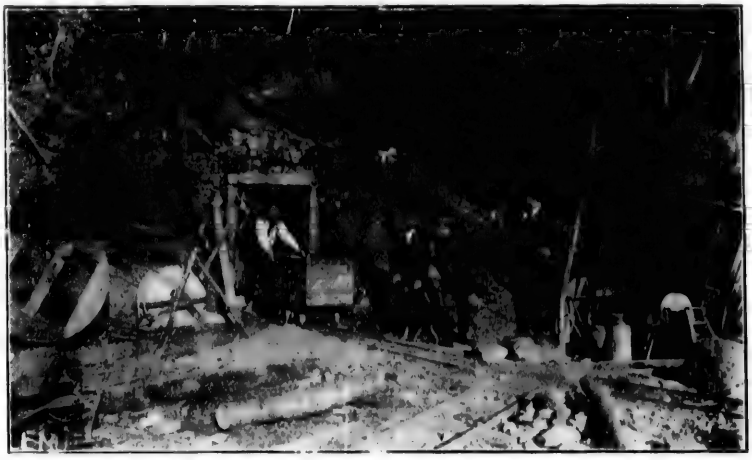
On the Vancouver there was considerable development work done last year, during which time some 300 tons of ore was shipped. For the first half of the current year 320 tons were sent from the mine, which is now looking better than ever. The property is in a position to ship on a large scale.

The Wakefield shows up rich in galena and carbonates. Upwards of 2,000 feet of tunneling was done last year, and as a result the mine was put on a sound shipping basis, having sent out 580 tons of ore for the six months ending 30th June last.

The Comstock is another carefully handled property. About 1,000 feet of tunneling was done during 1898, and some 700 feet of upraises. A concentrator is operated in connection with the mine, and up to June last 20 tons of ore



The Noonday Mine, Silverton.



The Emily Edith Mine, Silverton.

and 100 tons of concentrates were shipped as the output for the year to date.

The Emily Edith is one of the old stand-bys of the camp. It is a well developed property, and one from which considerable ore has been shipped. For the first half of the current year 60 tons were sent to the smelter, but the mine had been shut down for some time owing to water troubles, otherwise the total would have been much higher. It is expected that the mine will soon become a regular and heavy shipper.

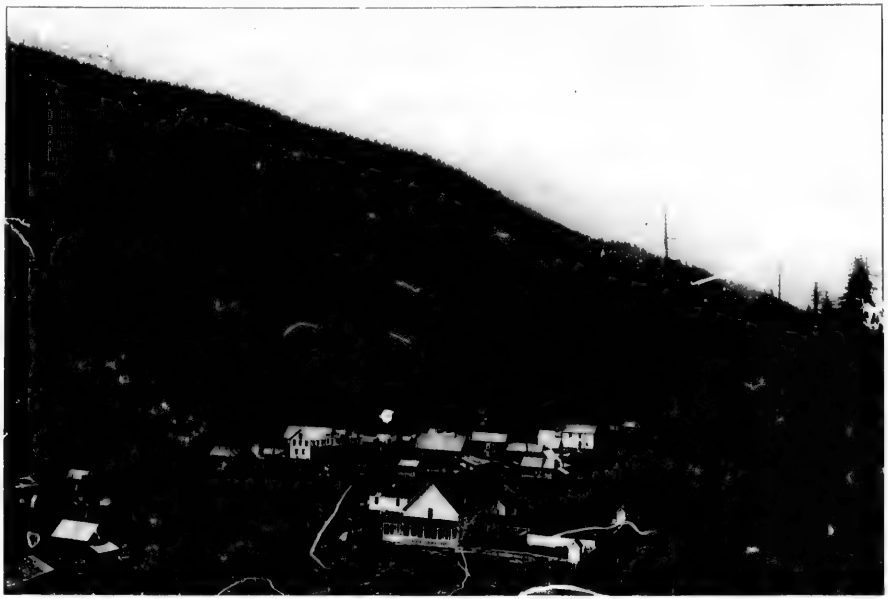
The Fidelity must also be classed among the shipping mines of Silverton, adding a few tons to the total shipments of the camp, which for the six months ending June last totalled 1123 tons.

There are a number of very promising properties in course of development, including the Sultana, Congo, Edinborough, and Bartlet.

It is reported that a deal has just been consummated by which the mining property known as the Galena Farm passes into the hands of A. W. McCune of Salt Lake and W. L. Hoge of Anaconda. A representative of the parties was in Silverton a short time ago and secured a load of ore samples, and also got bids for freighting ore and supplies.

Office of the Silvertonian.

The Original Settlers of Kootenay.

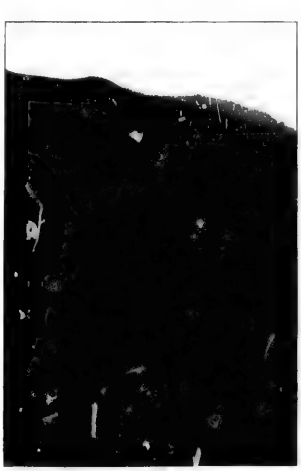


WHITEWATER.

WHITEWATER.

The town of Whitewater is in the valley of the Kaslo River, on the K. & S. line of railway. It is about 18 miles from Kaslo and 12 from Sandon, and enjoys an altitude of 3,400 feet above sea level. There are some great mines surrounding the little town, and when all are in full operation Whitewater is a busy spot.

The Jackson mines comprise the crown granted claims Northern Bell, Kootenay Star, Dublin Queen Ophir and Labor Day fraction. In 1892 the properties were located. They are situate at the head of Jackson Basin, Jackson Creek running through the property. The workings consist of five tunnels, aggregating 4000 feet, whilst below the creek level a shaft has been sunk to a depth of 300 feet, and is equipped with large steam hoisting and pumping plant. Last year a concentrating mill was built at the mine, with a capacity of 75 tons a day. This is operated by water power, with an alternative steam plant to provide for exceptionally low water. During the first quarter of the present year the shipments exceeded 500 tons, chiefly clean ore, and the large reserves of ore at present in sight justify the expectation of continued shipments for a long time. A large force of men is employed at the mine.



THE JACKSON MINES.

The Whitewater (illustrated on next page) was located in 1891 by J. C. Eaton, and the worth of the property was soon established. It is now in the hands of a strong English syndicate, and is being thoroughly and scientifically worked. A well equipped concentrator with a capacity of 120 tons per day is kept busy, while the mine is literally honeycombed with tunnels, winzes, cross-cuts and drifts. For the first half of the current year 1,360 tons of ore was shipped from the Whitewater, which is now in a position to increase its output considerably.

The Whitewater Deep (illustrated on page 52) is one of the first mines in the Slocan undertaking to attain a vertical depth of over 1,000 feet below the apex, to prove the continuity of the vein and ore chutes. The property is being thoroughly and systematically developed, no expense being spared to make it a liberal shipper and substantial dividend payer. A flume from Lyle Creek, 5,000 feet long, supplies power to the com-

Whitewater Concentrator.

pressor. A 1,800-foot tunnel is being driven on the lowest level to tap the ledge at a depth of about 1,000 feet. There can now be no doubt that the famous Whitewater vein is that which runs through the Whitewater Deep group.

A Montreal firm controls and operates the Charleston group, which is a very promising property but one which will require a lot of work ere it becomes a well developed property.

A lot of well directed work has been done on the Hillside, all of which goes to show that there is a good body of ore available.

The Alexander is another good property which is receiving due attention, and from which much is expected.

On the Elkhorn some work has been done, resulting in a satisfactory showing.

The Wellington is reported as looking well. It is said to be the intention to continue operations and thoroughly prove the property.

The Bell has been fairly well developed, and shows up well. Picked samples assay high, but the ore body proper has not been worked to any great extent.

There are numbers of claims at Whitewater upon which assessment work is being done, proving that the holders at least have confidence in their locations. This is a source of satisfaction.

Interior View of Concentrator.

OFFICES, WHITEWATER DEEP, WHITEWATER.

WHITEWATER DEEP MINE.

COMPRESSOR, WHITEWATER DEEP.

AINSWORTH.

AINSWORTH.

Ainsworth, or Hot Springs as it used to be called, is the oldest camp but one in the West Kootenay district. The oldest camp was known as the Bluebell (now Pilot Bay) and was located in Jan. 1883 by R. E. Sproul, but was known to the Hudson Bay people long prior to that date. In the summer of 1883 Hot Springs was also located. It took its name from a series of hot springs, which were supposed to possess rare medicinal properties, but which were afterwards found to be overcharged with lime. The springs proving a failure, attention was directed to the mineral deposits, and the name was altered to Ainsworth. The majority of the claims are old locations, that have been worked with more or less success; but it is only of recent date that the old-fashioned methods of mining have been discarded — hand-drilling, windlass work and mule packing have given place to compressed air drills, concentrators, steam hoists and elevated wire tramways. With improved methods of treating ore, and the probability of having the Pilot Bay smelter again blown in, there is a good time in store for Ainsworth. In the camp at present are two concentrators, one worked by steam and the other by motor power.

On Woodbury Creek the Albion, Pontiac and Grant have had considerable work done, and have shipped o.

Lying off the wagon road are the Little Donald and Black Diamond, working through a joint tunnel, and in other particulars well developed. Stevenson & Son, the owners of the steam concentrator, have taken over these properties, and built a flume to work the air compressor. Ore taken from the tunnel averages 40 per cent. lead and gives 90 ounces silver.

Number 1 is improving with depth, and the concentrates (4 to 1) have assayed from $300 to $600 per ton. Some argentiferous galena has been shipped direct without concentration, but the main ore body will not stand this treatment.

On the New Jerusalem some excellent work has been done. About 2000 feet of tunneling has been driven, giving a depth of over 500 feet. A good wagon road has been built to the mine, a large flume constructed to supply power to the air compressor, and a 100-ton concentrator is being installed.

The Rand is also showing up well, and will soon be a regular shipper if indications count for anything.

At the Twin everything is looking well, some good bodies of ore having been blocked out.

The Tamarac ought soon to join the list of shippers.

The Silver Glance has shipped.

The Highlander has recently been acquired by J. C. Beatty and associates, who intend to work it actively.

The Tariff is in fine trim and continues to ship.

STAMP MILL AND OFFICE BUILDINGS ORO MININGAND MILLING CO. (SEE PAGE 31).

Halcyon Hot Springs, Upper Arrow Lake.

HALCYON HOT SPRINGS.

The Lakes of Kootenay are every year attracting more attention as their beauties become known and facilities for reaching them are improved. Perhaps none of these great watersheds are more popular than Upper Arrow Lake, where the peculiar curative properties of the Halcyon Hot Springs attract to it those in search of health and happiness. The famous springs are some twelve miles from Arrowhead A fine hotel and cottages are here provided for the accommodation of visitors, while the splendid steamships of the C.P.R. and their palatial railway cars make travelling a luxury. As to the medicinal properties of the waters of the springs all who enjoy their benefits bear willing testimony. J. Falconer King, the famous Scotch analyst, says:

"This water is remarkable chiefly for the very large proportion of silica and alkaline salt which it contains. Another noticeable feature in the composition of the water is the presence of a very considerable amount of sulphuretted hydrogen, and also the rare substance, lithia. Of this latter substance there is fully six times as much as is shown to exist in two different American waters, results of the analysis of which are now before me."

ERIE.

Erie is an ideal little spot on the shore of the lake from which it takes its name. The town site is owned by the Nelson & Fort Sheppard Railway Co., and was laid out in 1896. The first settler was W. H. Gilliam, who is largely interested in mining properties in the district, and who runs a very comfortable hotel. If the beauties of the place were but generally known, Erie would soon become a favorite resort of the angler and spotsman, and those who have time to get rid of that tired feeling, which most people experience in the summer months. In the mountains and creeks, by which Erie is surrounded, are some very rich mines.

The Second Relief shipped some 500 tons of ore last winter to the Northport smelter. From one parcel of 135 tons, picked ore, they had returns of $78 per ton; another parcel gave $46.60 per ton. A good wagon road leads to the mine, which, in addition to other mining machinery now in operation, is to have an eight drill compressor. The Second Relief can easily be made a regular shipper.

The Arlington is another great property, on which considerable development work has been done. The main shaft is down 425 feet, and from the 400 foot level they are drifting north and south in 10 feet of rich ore. Last winter a shipment of 300 tons netted $36 per ton. Work proceeds satisfactorily, and it is expected that the Arlington will soon be a regular shipper.

ARROWHEAD

On the Humming Bird, adjoining the Arlington, a 30-foot shaft has been sunk in good ore, giving $38 in gold and copper values.

On the Norway a 50-foot tunnel has been run, and values of $30 obtained from a well defined two foot seam.

At the Canadian King they are within a couple of hundred feet of the Arlington ledge, for which they are working.

The Waffer, adjoining the Second Relief, was closed down owing to water troubles during the spring, but work has been resumed. Over 600 feet of work has already been done, and it shows up well.

On the Singlehurst renewed operations are encouraging. A rich seam, three feet wide, has been uncovered, giving values in gold, ranging from $15 to $72 per ton.

On the Minnie they claim to have traced the vein 3000 feet—supposed to be a continuation of the Second Relief ore body.

The Edith, in the same group, has a 60-foot tunnel on a ledge of quartz and sulphides, carrying good values in gold.

On the Sunshine they have a three-foot ledge, traceable for 1200 feet, carrying values of from $10 to $16. There are two shafts, one of which is down 10 feet and the other 20 feet. Sinking is being continued.

On the Deer Trail a six-foot-wide body of good ore has been uncovered.

The Ontario has passed into the hands of a Colfax, Wash. company, who will work the property, which has already been proven worth attention.

On the Bella and Rosa considerable drifting and cross-cutting has been done, and with very encouraging results.

The Maud S. is improving as work proceeds. A depth of 45 feet has been attained, and at the bottom of the shaft ore has been taken out which assayed $46 in gold with 7 per cent. copper.

The Idaho is looking very well, but more work is needed to fully establish the richness of the property.

An adjoining claim, the Barton, has been crown granted. This is a copper proposition, and one from which good things may be expected.

On the Atlanta some 125 feet of tunneling and 35 feet of shafting has been done, and work continues.

A good round sum has been spent in testing the worth of the Poor Richard. Two shafts have been sunk—one 40 feet and the other about 12 feet.

Although but a year's assessment work has been done on the Copper King at Craigtown, the showing is such that there can be no doubt as to the richness of the ground. A four-foot ledge of ore has been uncovered, giving values of $26 in gold and copper.

On the North Fork claims, owned by Benn Bros., some good work has been done. A smelter sample of ore taken from the bottom of a 25-foot shaft gave returns of $29 per ton.

NAKUSP, WITH C. P. R. STEAMER KOOTENAY AT WHARF.

C. P. R. STEAMER ROSSLAND, PLYING ON ARROW LAKES.

At the Queen Bess Mine.

THREE FORKS.

At Three Forks the Queen Bess, Idaho, Monitor and Wild Goose are all shipping ore.

The Queen Bess, owned by the Queen Bess Proprietary Co., Ltd., of London, is situated on the northern slope of Howson Creek. It comprises ten claims—the Queen Bess, American Girl, Young Dominion, Concord, First Extension, Mentor, Mentor Fraction, Queen Fraction, Old Dominion Fraction and Young Dominion Fraction, the first five being crown granted. The principal workings are on the Queen Bess and Young Dominion claims. The mine is worked by five main adit levels, the aggregate length of which is about 3500 feet, and there are upwards of 2000 feet of upraises, besides cross-cuts, and some hundreds of feet of prospecting tunnels. The country rock consists mainly of the Slocan slates, cut by numerous dykes of quartz-felsite (porphyry) and a species of andesite. The ore shipped is of two classes—clean galena, carrying on the average 94 ounces of silver per ton and 66 per cent. lead, and an oxidized metal, commonly known as "carbonates," with an average contents of 55 ounces of silver and 28 per cent. of lead. The galena is fine-grained, striated and more rarely cubic. The mine

Three Forks in 1894.

was taken over by its present owners in October, 1897. From that date to the end of June, 1898, the output was 715 tons of galena and 185 tons of carbonates. For the half year ending Dec. 1898, 660 tons of galena and 433 tons of carbonates were shipped, while for the quarter ending March 31st last, the tonnage was 569 and 642 respectively, the shipments to that date aggregating 1944 tons of galena and 1260 tons of carbonates. The company paid an interim dividend of 12 cents per share in April last. The present work is mainly directed to showing up the ore in and below the lowest level, and to developing the considerable area of ground above the upper level.

The Idaho is another dividend payer. The last payment was made in January of this year, 5¾ cents per share, making the total to date $220,000. Four thousand tons of ore was shipped in 1898, and for the first half of the current year 640 tons.

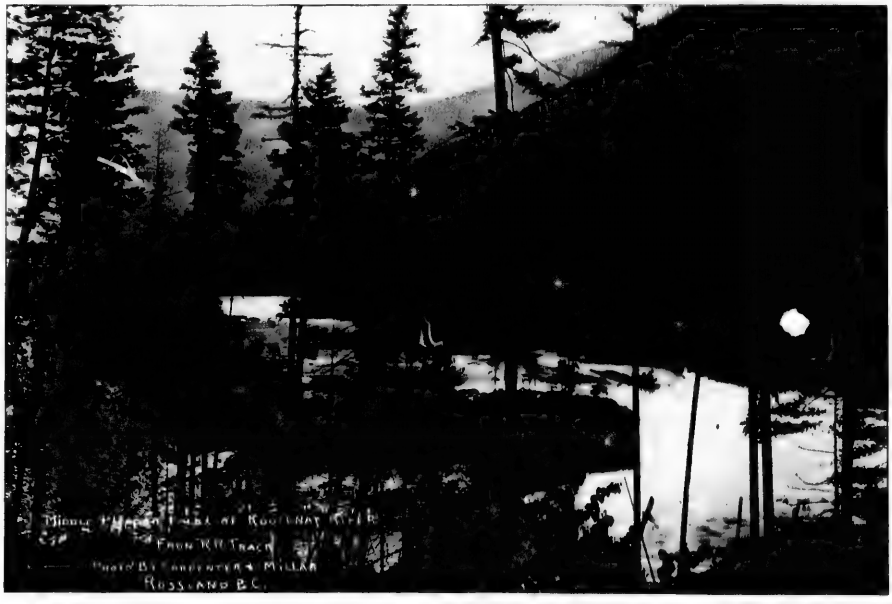
The Monitor shipped 62 tons up to June 30 last, as the half-year's showing, and is in a good condition to increase the output.

A small shipment has been made from the Wild Goose, a property which is recently coming into prominence.

There are a number of very promising prospects at Three Forks.

CAMP MANSFIELD.

Camp Mansfield is a new lay-out. It at the head of Ten-Mile Creek and south fork of Kaslo Creek, in the Ainsworth mining division. The Joker and Derby groups comprise the camp, which promises to become one of the great producers of the precious metals in the very near future. The property is managed by Mr. Ernest Mansfield, and is one in which London and Paris capital is largely interested. Mr. Mansfield last fall took hold of the properties, then mere prospects, and the vigor with which he pushed work is an augury of future success. Camp Mansfield, at that season, was supposed to be "ungetable," but Mr. Mansfield demonstrated what pluck and determination can accomplish. He managed to get his men and supplies in in the face of winter, and long before the rigors of the season were over, a shaft had been sunk 73 feet, and from it a drift, 104 feet in length, was run on the ledge. A remarkable thing about the property is the fact that the ore started in of a refractory nature and has within the last ten feet become free-milling. Well known mining men who have inspected the Joker workings say it has one of the finest showings in British Columbia for the amount of work done. The reef is continuous from top to bottom of the shaft. The value of ore taken out at the bottom runs from $60 to $70 per ton, although higher values have been given from assays made in different parts of Canada, America, England and France. Mr. Mansfield estimates the average value of the ore at $40 per ton. It is now proposed to run a cross-cut tunnel 1,200 feet to tap the ledge at a depth of 700 feet. Mr. J. J. Fleutot, a well-known French electrical and mechanical engineer, returned from the Old Country with Mr. Mansfield in March last to expedite matters in erecting machinery to treat the output of the mine. Mr. Fleutot represents some of the best financial houses of France, and acts as the power of attorney for the Excelsior Gold Mines of London, Eng., with a capital of £200,000.



SALMO.

The Yellowstone is one of the forthcoming mines of Salmo. Last year it was bonded by G. R. Mickle of Toronto, for $50,000, and a company was formed to work the property. A 4-drill compressor plant has been installed and a stamp mill is to be erected. The regularity with which the stipulated payments on the bond have been made proves that the company are well satisfied with their bargain.

The Salmo Consolidated is situate about four miles from the Yellowstone, and has had some $8,000 expended on it in development work with good results.

There are a number of prospects in the Salmo district which are now working, and every day brings the glad tidings of rich strikes on some one or other of them.

CODY.

Cody is about a mile above Sandon, and is the centre of a group of rich silver, lead and galena mines, chief among which is the Noble Five, Blue Bird and Ruby.

REVELSTOKE.

REVELSTOKE.

Revelstoke, owing to its geographical position, is destined in the near future to become an important mining centre. The city was incorporated in March last, and has a population of about 2,500. Since the removal of the C. P. R. workshops from Donald, Revelstoke has become the most important terminal point between Winnipeg and Vancouver. There are some 300 men employed in the railway service who make Revelstoke their home. As a trading centre the city commands a wide territory which, with the main line of the C. P. R. east and west, the branch to Arrowhead 28 miles south, connecting with the Lardeau country, Fish Creek, and Trout Lake camps and the contemplated steamship service on the Columbia River going north into the Big Bend district, is bound to make it the base of supplies. Revelstoke is beautifully situated on the banks of the Columbia River, surrounded on all sides by delightful mountain scenery. It has every advantage, social and commercial, which a rising western city can afford, including a good electric light and water system.

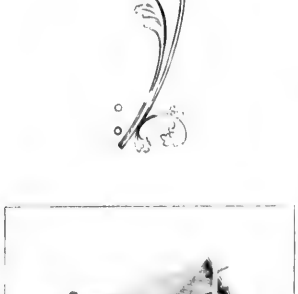
The Big Bend mining district comprises all that portion of East and West Kootenay lying north of the C. P. R. main line between Golden and Revelstoke, and acquires its name from the course of the Columbia River, which flowing north from Donald for 100 miles, suddenly turns southward, and is crossed by the C. P. R. at Revelstoke, 75 miles farther west. This immense tract is mineralized throughout, but as discovery came from the west and south, the little that is known of its resources is confined to its western portion, reached from the city of Revelstoke, which is its natural and only supply point. The first gold discovery in West Kootenay was made in this Big Bend country in 1865, in the placer claims discovered on French Creek, which runs into Goldstream, and in many other streams tributary to the Columbia. The rush was only temporary, owing to the primitive system of placer mining in vogue in those days. Hydraulic mining was introduced some four years ago, and has alreay proved to be eminently successful.

On French Creek a Chicago syndicate known as the French Creek Mining Co., have one and one-half miles frontage, covering the rich placer claims there, which they purchased from the Government, and have a complete hydraulic plant installed on the ground and in full operation.

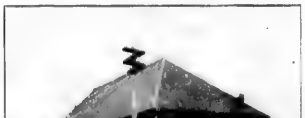
Carne's Creek camp, thirty miles from Revelstoke, is one of great promise. The results obtained by a party of prospectors equipped by a Revelstoke syndicate some three years ago, brought the Carne's Creek Consolidated Gold Mines, Ltd., into existence. The company owns seven claims and a mill site on this creek, and a very considerable amount of development work has been done, particularly on the Roseberry. On the north side of this claim is a large area of limestone—on the south a series of foliated rocks. They consist of argillites and schistose, in some places distinctly micaceous. At the junction of the lime and argillites is found a calcmica schist containing some iron pyrites. On the creek is found considerable gold bearing rock, while farther south gold, silver, copper and lead is met with. The ore is a mixture of quartz, iron pyrites and mispickel. From 32 assays made as development proceeded the results run all the way from $17.50 to $230, showing that the ore appreciated in value as depth was attained.

Last December Mr. W. Pellew-Harvey, F. C. S., of Vancouver, made a series of exhaustive tests, and assays from a sample consisting of 350 pounds of ore from the Roseberry group, where most of the development has been done. The average assay was gold 1.1 ounces per ton, silver 1 ounce, value $22. It was found that the gold in the sample was in a fine state, and equally divided, and that 57.7 per cent existed in a free state; that the ore could be treated very successfully by the cyanide process, and that the total cost of treatment would not exceed $3.50 per ton. During the last two years $13,000 were spent in operating the property, and 100,000 treasury shares were sold last February, which enabled the management to arrange for the erection of the plant recommended.

Molson's Bank, Revelstoke.



Mail Office, Revelstoke.



Imperial Bank of Canada, Revelstoke.

CITY COUNCIL, REVELSTOKE.

6. F. McCarty, Mayor; 7. Dr. McKechnie, 5. Ald. W. F. Crage, 1. Ald. W. M. Brown, 2. G. F. McCarter, City Solicitor; 3. C. E. Shaw, City Clerk; 4. Ald. F. B. Wells.

During the past two years some seven hundred claims have been located in the vicinity of Carne's Creek, Standard Basin and Keystone Mountain.

The Coston & B. C. Copper Mining & Smelting Co. bonded a group of seven claims the begining of June, from Wilcox, Rhumen & Smith, old time prospectors. The property is situated in the Standard Basin, about 40 miles up the Columbia River from Revelstoke. The amount of the bond was $65,000, $3,000 of which was paid down as soon as the deal was put through by Mr J. M. Scott, Barrister. Active work is now in progress.

The Great Western Mines, Ltd., of Lardeau, with head offices at Revelstoke, have three full claims, including the Nettie L., some seven miles from Arrowhead on the northeast arm of Arrow Lake. Development work to the extent of 100 feet of tunneling has been done on the Nettie L. The ledge was tapped at about 160 feet, where it passed through seven feet of iron and copper bearing rock, three feet of talc, two and a half feet of graphite and eighteen inches of solid grey copper and galena. Several assays of ore have been made giving as high as 351 ounces silver, 29 per cent. lead, 6.9 cer cent. copper and $5.60 in gold. The railway from Arrow Head to Kootenay Lake will bring the line within one and a half miles of the Nettie L. property, and be the making of the Great Western Co.

McGUIGAN.

The Antoine Mine, situated some six miles from McGuigan, on the K. & S. Railway, resumed work in April, after a cessation of two or three months—from the date when the entire interest in the property was acquired by Mr. George Alexander, of Kaslo, who had previously owned a minority interest. This property has been a continuous shipper for the past three years, little or no ore being shipped except the results of development work, which at the present time has proceeded to a considerable extent, putting in sight large bodies of ore under conditions of highest promise. The workings consist of an incline shaft 200 feet in depth, sinking upon the vein, and showing ore during its entire depth. From this shaft four levels have been run, the longest being about 700 feet, of which more than half the distance is in ore. The value of the ore from this property may be judged from the fact that a shipment of fifteen tons gave net smelter returns of over $3700. The recent shutdown has been utilized in providing an improved plant for pumping and hoisting,

REVELSTOKE BOARD OF TRADE.

12. H. A. Brown, President; 11. F. B. Wells, Vice President; 13. C. E. Shaw, Sec. Trea.; 6. W. M. Brown, 7. J. M. Scott, 8. C. Lindmark, 9. W. F. Crage, 10. W. M. Lawrence, 5. G. E. Grogan, 4. Dr. McKechnie. 3. F. McCarty, 2. J. Abrahamson, 1. G. F. McCarter.

and arrangements have also been made for running a long tunnel, which will give a depth of over 1,000 feet from one of the other claims, now owned with this property, covering the entire distance between the Antoine and the Rambler-Cariboo. The new tunnel, in addition to draining the mine, will have its mouth close to the wagon road which connects McGuigan with the Rambler-Cariboo mine. The surface indications of the country which it will traverse give good promise of value of results before the Antoine ledge proper is cut. Shipments during the year 1898 amounted to about 500 tons, and as work is now being prosecuted with a larger force, it is probable that this rate of output will be exceeded in the present year, although it is intended to push development, and do little or no stoping for some time to come.

The Rambler-Cariboo has already paid dividends amounting to $50,000, besides defraying the expense of development work, which is carried on on a very liberal scale, and also installing machinery. Last year 580 tons of ore was shipped from this mine, and for the first six months of this year there were 388 tons sent to the smelter.

The Dardanelles has also joined the shippers. A depth of over 500 feet has been attained, and at the bottom of the shaft they are in two feet of rich ore. Up to June 30, last, the mine shipped 100 tons this year, while for the twelve months ending Dec. 1898 the total was 75 tons. It will thus be seen how rapid has been the progress made.

The Great Western produces concentrating ore. About 400 feet of tunneling has been done on the property, which has recently been added to the list of shippers. There is a great body of ore in sight, with good facilities for handling it.

In the immediate district are several very promising properties in course of development.

TEN-MILE CREEK.

There are a number of good properties on Ten-Mile Creek, chief among which is the Enterprise, which has lately changed hands and joined the list of shippers. The Enterprise group consists of two full claims and a fraction, and is being actively worked. There are seven tunnels in a vertical distance of 800 feet, three of these being in over 700 feet. A continuous ore chute is followed for 3,000 feet. The mine is well ventilated, and is in good shape for continuous work.

The Ohio group is an extension of the Enterprise. On it considerable drifting and tunnel work has been done with good effect.

The Crescent group is another very promising property on the Creek. It is under option to the Joker people for $30,000. (See page 58).

Besides the properties here mentioned there is a great deal of assessment work being done all along the creek, and every day rich strikes are being made, establishing the wonderful wealth of the district.

On Lemon Creek there is great activity. Some of the leading properties here being operated are dealt with under the heading Slocan City (see page 31).

Moyie.

MOYIE.

The pretty little town of Moyie stands on the shore of the lake from which it takes its name, and just at present there is not a busier spot in the country. A few famous mines, well developed, and a number of rich claims, now being worked, are immediately tributary to the town. The Crow's Nest Pass Railway connects Moyie with the busy outer world, although the railway station adorns a place called Moyelle, some two miles distant, where a sort of opposition townsite was for a time boomed. However Moyie has the mines, and is growing steadily in wealth and importance. The townsite was located some years ago by Mr. G. Campbell, who, convinced of its great future, established a hotel there which he still holds. What the place was

Moyie in 1896

MOYIE BOARD OF TRADE.

J. M. Lindsay, W. A. Hamilton, N. Dara, J. P. Laronde, G. Campbell.
O. J. Johnson, R. Campbell, F. I. Moore, J. N. McCracken,
F. J. Smyth, Trea.; Karl Neitzel, Vice-Presdt.; J. P. Farrell, Presdt.; A. T. Clark, Sec.

Moyie Lake.

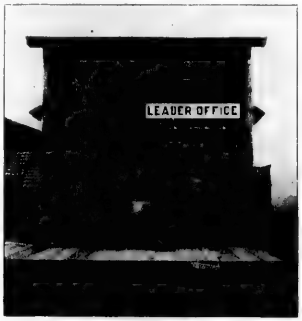
then, and how rapidly it has grown since, the accompanying illustrations will show. Over two years ago D. R. Young, Manager of the Standard Publishing Co., established a newspaper at Moyie—the Leader,—a paper which has grown with the town, and played an important part in bringing the beauties and great mineral resources of Moyie to public notice. The Leader has all along been in charge of F. J. Smyth, under whose editorship it has been a power for good. He is now proprietor, with Mr. Musgrave.

The great St. Eugene mine, which has a touching little history, is the property to which Moyie owes its existence. Some half dozen years ago a Corsican priest, one Father Coccola, came as a missionery to the East Kootenay Indians, then roaming the country in troublesome bands. He soon got into the good graces of the big red men, and unfolded to them a scheme for building a church in which to worship the Great Spirit. But, poor in the world's goods, the undertaking presented great difficulties. It was agreed that the Indians were to look out for some big mineral deposit, for the good priest knew the country was rich in this particular. Accordingly one of the band, named Peter, left the St. Eugene mission, on a treasure hunt, and a few weeks afterwards returned with the announcement that he had found the treasure that would build the church. Peter had some samples of the ore from what is now the St. Eugene mine with him—bright, glistening galena. James Cronin shortly afterwards appeared on the scene, and was induced to inspect the find. It was richer than he even dreamed of, so he staked off two claims, calling them the St. Eugene and the Peter. Cronin received a half interest for his services, and the priest and the Indian the other half. John A. Finch bought out the priest and Indian for $12,000, and with part of the proceeds of the sale they built the church and mission, which today stand a monument to their courage and zeal in the good cause.

The Gooderham-Blackstock syndicate, owners of the War Eagle and other well-known mines, have purchased a controlling interest in the St. Eugene, paying for same in the neighborhood of $500,000. The property has been well-developed, and proven to be of exceptional richness—shafting and tunneling all being in solid ore, which gives returns as high as 70 per cent. lead and 50 ounces of silver to the ton. Work on a big, new concentrator is now going ahead, and a ten-drill air compressor is to be installed.

The Queen of the Hills and the Moyie are full-sized, crown-granted claims, lying directly below and adjoining the St. Eugene group.

Lake Shore and St. Eugene Mines.



Running through both properties is the St. Eugene lead.

The Lake Shore group also carries the St. Eugene lead. This property has recently been acquired by the Canadian Gold Fields syndicate, who are putting in a seven-drill compressor. When the plant is installed work will be resumed with renewed vigor and the output of the mine considerably increased.

The Society Girl adjoins the St. Eugene, and with work will prove another great mine.

On the west side of the Lake, clear across from Moyie, is the Aurora group, being operated by Johnson & Neitzel. There is every evidence to show that the St. Eugene lead crosses under the lake and strikes the mountain at the other side. Here it is traced through the Aurora group. They have one tunnel in 95 feet following a vein three feet wide carrying quartz and a little sprinkling of galena, but another 90 feet will have to be run to tap the pay chute. This extraordinary seam of ore, which is well defined from the St. Eugene for 9000 feet on the east side of the lake, has been followed for 6000 feet up the mountain on the west shore. There can be little doubt that the seam runs under the lake from one side to the other, as the ore is almost identical at both sides, and in a direct line.

There is a great deal of work going on in the vicinity of Moyie.

CRANBROOK

CRANBROOK.

Cranbrook is the principal town on the line of the Crow's Nest Pass Railway, and is the divisional point where the workshops of the company are located. The townsite is all that could be desired, being on a fertile stretch of prairie in the valley between the Rocky and Silkirk mountains. The town has grown wonderfully in population and importance since the advent of the railway, and has no doubt a bright future. A spur line has been started to connect with the North Star, one of the great mines near Cranbrook, and when this line is in running order it will make the town more than ever the great distributing point of the district. Already the question of incorporation has been mooted, so that before long the interests of the ever growing community will be looked after by a mayor and board of aldermen. At present a very efficient board of trade do the needful in this particular, and do it well. A glance at the next page will show that all the leading business men of the town are on the board.

HERALD OFFICE. CRANBROOK.

As already stated the North Star is about the best developed property in the district. McKenzie & Mann of railway fame, are the principal owners. The property has been worked since 1892, and has shipped over 5,000 tons and is now in a position to contribute more liberally to the output of the district. The main shaft is down 200 feet; from this they are cross-cutting and drifting in ore giving 30 ounces in silver and 60 per cent lead. There is an immense body of ore in sight. It is reported that the property is to be stocked at $1,500,000, with some others adjoining.

The Sullivan group is with the North Star. A lot of good work has been done on the property, which gives promise of soon becoming a regular shipper.

On the Payroll the tunnel is in over 100 feet. They struck the ledge about 80 feet below the sur-

face. A great deal of tunneling, cross-cutting and drifting has been done and a large body of ore assured which runs high in values.

The Union Jack is about 4½ miles from Cranbrook. A good deal of work has been done, which has encouraged the owners to go ahead. A contract has been let for a couple of hundred feet of extra work. Encouraging assays have been obtained, running up to $26 in gold and 65 per cent copper.

Adjoining the Union Jack is the Paymaster. The ground is only partially explored, but those who have been over the country examining it professionally, say that an immense copper belt runs clear from Baker to Palmer mountain. Well within this belt is the Paymaster.

Nearly 200 feet of tunneling has been done on the Bellevue, at Palmer's Bar, and results are reported as highly satisfactory.

The Copper Bell on Niggar Creek has been fairly tried and not found wanting. There are many good things on this creek.

HAPPY HUNTERS, NEAR CRANBROOK.

On the upper St. Mary's there are several strong companies operating, and all seem to be satisfied with the showings. They are working on a rich copper belt, and as development proceeds prospects are improving.

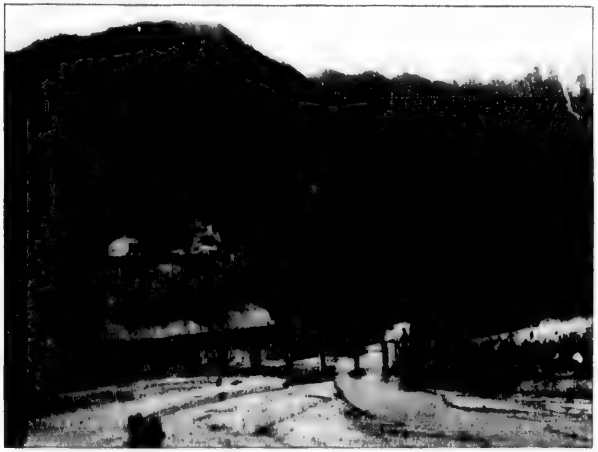
CRANBROOK BOARD OF TRADE.

1. J. H. SMYTHE, Mgr. Bank of Commerce, Vice-Presdt. ; 2. ARCHIE LEITCH, J.P., Presdt. ; 3. A. W. MCVITTIE, Sec. ; 4. J. H. KING, M.D. ; 5. W. T. REID, 6. ALEX. MOFFATT, J.P. ; 7. J. MCDUFF, 8. R. E. BEATTIE, 9. GEO. BREMNER, 10. C. MAGGS, 11. F. E. SIMPSON, 12. H. H. BROWNE, 13. H. MCMILLAN, 14. C. M. EDWARDS, 15. J. FINK, 16. J. R. COSTIGAN, 17. G. H. MINER, 18. J. HUTCHISON, 19. J. H. LAIDLAW, 20. J. M. HEELEY, 21. T. T. RICHARDS, 22. E. SMALL, 23. J. LEASK, 24. F. R. MORRIS, 25. J. G. PATTISON, 26. A. W. WATSON, 27. F. W. HUGHES, 28. L. M. VANDECAR, 29. J. LARONDE, 30.

Fort Steele.

FORT STEELE

The Fort Steele mining division is in the East Kootenay district, and has an area of between 6,000 and 7,000 square miles. The surroundings of the town are beautiful-great stretches of grass-covered prairie, dotted with stately Douglas fir and bull pine, a beautiful stretch of park. The town is on the bank of the Kootenay River, near the mouth of St. Mary's River, and the advent of the railway has done much to further the interests of the whole district. Perhaps the most important mining development in East Kootenay, if not indeed in the province, during the past year, has been the opening up of the Crow's Nest Pass coalfields, estimated to contain 16,443,909,000 tons in twelve seams. Fernie is the coal town and a very busy spot it is.



Wild Horse Creek, Fort Steele.

As far back as 1864 Fort Steele was located by J. T. Galbraith, but was then known as Galbraith's Ferry. It was in 1887 that the place was called Steele, after Major Steele, of the Northwest Mounted Police, who, with Troup D., visited the district to quell an uprising of the Indians. The aborigines, however, are now a very law-abiding lot, thanks to Father Coccola of the mission. The precious metals have long been known to exist in the vicinity, and in 1863, when Wild Horse Creek was discovered, it is estimated that there were between 5,000 and 6,000 prospectors and miners camped there. Of late years considerable prospecting has been done, and with good results.

A recent discovery on Boulder Creek, near Wild Horse, is creating a great deal of attention. The

property is called the Big Chief. Fifteen men have been at work there for some time, and have stripped the surface in several places, tracing a free milling body of ore which gives returns from $200 to $300 per ton, while picked samples run away up in the thousands. It is claimed that there is a million tons of this material in sight.

The Dupont group of four claims is also a very promising property. Here good quartz ledges have been struck traceable for hundreds of feet and assaying well.

The Burton, on McKinnon Creek, near the town of Eiko, has what appears to be a true fissure quartz vein from one to six feet in width. The ore consists of copper carbonates and oxides, with rich copper sulphides in place, occurring in stringers and pockets through the quartz. A 200-foot tunnel has been driven in on the vein, from which has been taken some very fine ore. It is a copper proposition, with little or no silver or gold values.

There are some half-dozen good claims on Sheep Mountain at the fork between Elk and Kootenay rivers, about a mile south of Elko. On the Ram's Horn a fairly well defined quartz vein, some 20 inches wide has been encountered. More work, however, will be needed to establish the claim.

The Jennie is a property upon which not much work has been done, but so far as it has proceeded the showing is good.

The Sweet May, an adjoining property, has some good indications for the amount of work done.

On Sand Creek there are some splendid prospects. The Bishop group of five claims is situate about half a mile up the Creek from the C. P. R. crossing and the town of Cranston. Three tunnels have been driven exposing quartz leads con-

MINERS' CABINS IN THE SIXTIES, NEAR FORT STEELE.

FORT STEELE BOARD OF TRADE.

1. G. H. GILPIN. 2. J. A. HARVEY, President: 3. E. A. ELTON, Sec.; 4. E. J. CANN. 5. D. GRIFFITH, 6. R. D. MATHER. 7. DR. HUGH WATT. 8. THOS. EDE. 9. W. H. KEELER. 10. D. L. BEETSCHEN. 11. DR. COURSON. 12. WM. CARLIA. 13. W. R. ROSS. 14. R. G. SHIER. 15. C. F. MANSFIELD.

taining copper carbonates and sulphides, with some iron sulphides and occasionally galena.

The Empire Mineral Claim, locally known as Major Steele's claim has had a lot of work done on it, but not sufficient to thoroughly prove the property.

The Blue Grouse is an extension of the Empire, and where the vein is exposed it is found to carry copper and iron pyrities in stringers.

The Mountain Mineral claim is between four and five miles west of Sand Creek. Some 30 feet of tunnelling has been done, and the ore so far is in stringers. More work will be needed to prove up the property.

The Waterfall claim is a promising one, some five miles west of Cranston. Work consists of tunneling, open cuts, etc., and some good pockets of copper pyrites and galena have been encountered.

On Bull River there are some good properties. The river flows in a southerly direction from the Rockies, and empties into the Kootenay near Wardner, and since the early sixties was known as a fortune maker. It would be difficult to say how much gold was taken out of the stream in the old days of placer mining, but there can be but little doubt that an immense amount of the precious metal was washed in the river bed near the old Pack Bridge. The richest ground appears to have been in the immediate vicinity of the canyon, but where the gold came from that lay there is still an unsolved mystery. However, there are several old miners, who continue to take gold from the river bed, and who implicitly believe that they will strike it rich one of these days.

KOOTENAY BRIDGE, FORT STEELE.

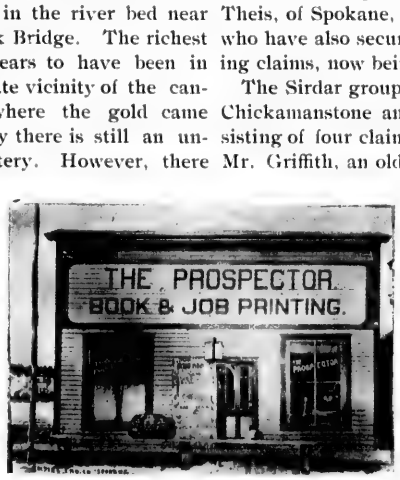
About ten miles from the mouth of the river are situated the Chickamanstone, Maple and Sirdar groups. The general character of the ore is copper, carrying good gold values. Work on the two first-named properties consists of a 200-foot tunnel, following a well-defined lead for a depth of 70 feet. There were about 30 tons of ore on the dump when we visited the property. Several open cuts had been made showing the average width of the ledge to be from 9 to 15 inches of clean ore, giving values running to $46. This property has been purchased by Mr. Theis, of Spokane, and associates, who have also secured two adjoining claims, now being worked,

The Sirdar group, adjoining the Chickamanstone and Mabel, consisting of four claims, is owned by Mr. Griffith, an old timer. There are some 85 feet of tunneling done on this property, besides some 30 feet of shafting and open cuts. The ore is rich in copper, and carries good gold values.

The Old Abe is apparently in the same belt. The main tunnel is in some 35 feet, and a great deal of surface work has been done. Assays give $100 in silver, 60 per cent. lead, and small gold values.

In the Dibble Basin, at the head of Lost Creek, are some good properties. The creek is one of the "lost" creeks of the district, disappearing underground at a point about six miles from Fort Steele. The Dibble group is a fairly well-developed property, with two tunnels of 500 and 150 feet respectively, and several open cuts. Some lots of ore have been sent for smelter tests, and give good returns.

There is still some placer mining going on at Wild Horse Creek. McMillan's placer mining claim is proving what a few practical miners can accomplish, when they have the courage of their convictions. The men working this claim believe in the existence of an old channel—contending that a gigantic slide has occurred on the mountain side, whereby the old channel on Wild Horse has been filled up, and the river forced into its present course. They are now engaged in driving a tunnel near the present bed of the creek, to cut what they suppose to be the western rim rock of the old channel.



Here they hope to be rewarded by the discovery of rich placer grounds. The operations are being watched with keen interest.

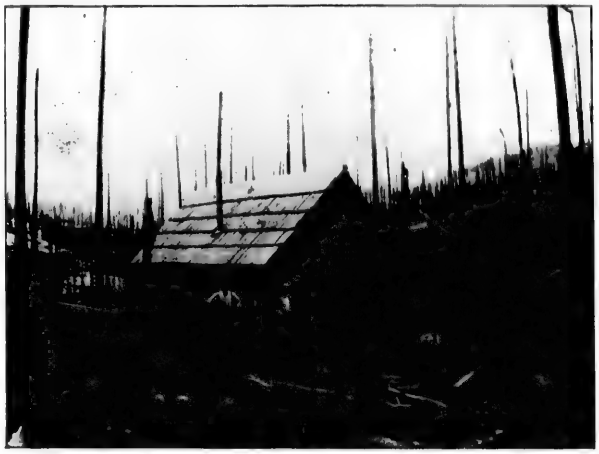
There are three companies working by hydraulics the grand banks of Wild Horse Creek—the Nip and Tuck Gold Hydraulic Mining Co., of London, Eng.; the Invicta Gold Mining Co. and a Chinese outfit. All appear to be doing well.

The Dardanelles is another promising property on Wild Horse Creek. Surface showings are immence. This is said to be the first free milling property located in the camp. Active work ought to establish the Dardanelles a good property.

On Skookum Gulch there is a number of good claims, none of which, however, have been thoroughly tested.

On Four-mile Creek there are the Try Again, Good Prospect, Paris Exhibition and some other good properties in course of development.

Tracey camp is situated about 15 miles from Fort Steele in a northerly direction, and is approached by a good wagon road. The camp embraces a wide area, including Lewis, Tracy, Grundy, Wassa and Six Mile. The ledges are strong and continuous, and have every appearance of holding their own with depth. All work done so far has greatly improved the prospects, and it is only a question of a very short time when this camp will become a large producer. The country rock includes granite, porphyry, quartzite, talc, slates, schists, lime slates, diorite, etc. The whole district is a network of ledges, all carrying mineral, which is chiefly copper, in its different forms. Galena is associated with it in places. The general form of the ore includes galena, copper, carbonate, pyrite, azurite, tetrahedrite and gold quartz. The ledges run from two to twelve feet in width.



THE PLEASURES OF HOPE, BURNT BASIN.

Among the notable properties of the camp are the Estella group; the Golden Fleece group, the Lady Ann group, the John L., J. H. C. and Hartwell claims, operated by the Tracy Creek Mining Co.; the Minnie M. and Tiger, by the Lewis Creek Mining Co.; the Swan and St Lawrence group, and the Montana group. There has been more or less work done on all of these properties, and in every instance it has given satisfaction.

The Kimberly Consolidated Mining Co. have a group of six claims, adjoining the North Star, which gives great promise. The ore is a galena, carrying some 50 ounces of silver and from 50 to 60 per cent. lead. A shaft, down about 45 feet, is in vein matter all the way, with bunches of galena through it.

CASCADE CITY.

Cascade City is one mile from the beautiful Christina Lake, and is the gateway of the Kettle River, Boundary Creek and Lake country. The town takes its name from the cascades, whose never-ceasing music seems to sing of future prosperity. A company has secured this great waterpower, which it is intended to utilize in the generation of power for lighting and working the mines and other industries of the district.

Tributary to Cascade city is the famous Burnt Basin, is which many good properties are being worked, including the Mother Lode, Tammany, Unexpected, Snowdrift, Hoodoo, Mountain View, Eva Bell, Solid Gold, Hastings, Keeler, and the Pleasures of Hope.

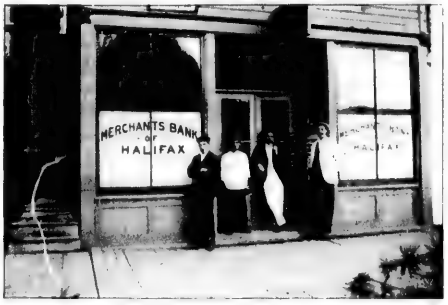
At Gladstone the John Bull is the great property which will make a reputation for the place.

Grand Forks.

GRAND FORKS

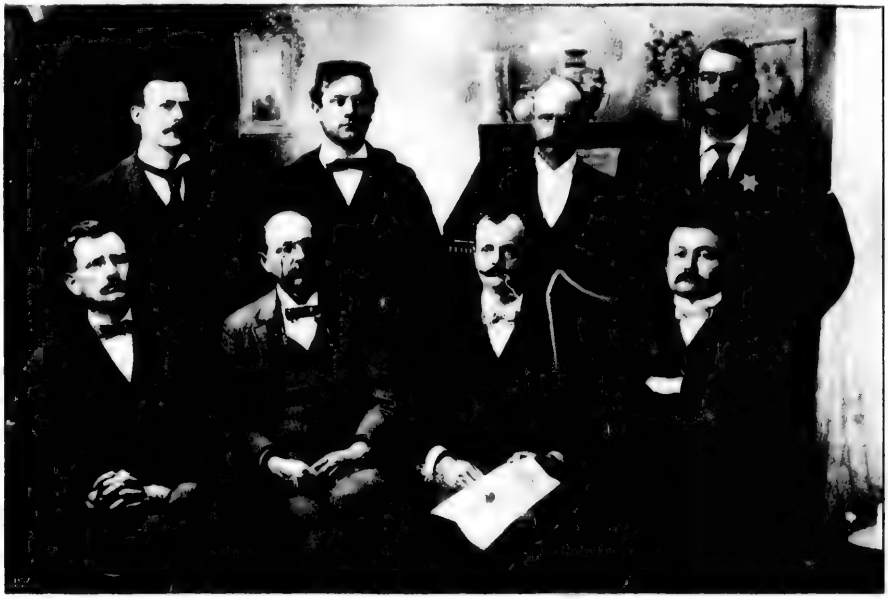
Grand Forks, the principal town in the Boundary Creek country, is rapidly growing in population and importance. The Boundary has long been known to the prospector and miner, but owing to the lack of any reasonable means of transportation the mineral deposits lay unworked. However, the exceptionally rich character of the ores of this region, its fertile valleys, beautiful waterways and congenial climate, all tended to mark it out as a desirable and profitable country in which to settle. Having shown themselves patient but persevering for a long time, the earlier settlers demonstrated that there was work for railways to do, and at once a somewhat bitter contest was entered into as to whether the C. P. R. or the Corbin system should be given the privilege of first entry. The C. P. R. won, and lost no time in building into the country. At present the rails are laid and trains are running into Cascade City. Construction work is proceeding as fast as is practicable, so that within the next few months the Boundary will be in full enjoyment of a good railway service. Grand Forks has tributary to it a splendid mining and agricultural country, capable of supporting a very large population. The city has its electric light and water system and all the conveniences of an up-to-date community. Its interests are faithfully guarded by the mayor and board of aldermen and board of trade, while the citizens generally are justly proud of their prosperous little burg.

The Grand Forks Miner is the local newspaper, and excellent service it does in presenting the news of the camp.



Merchants' Bank of Halifax

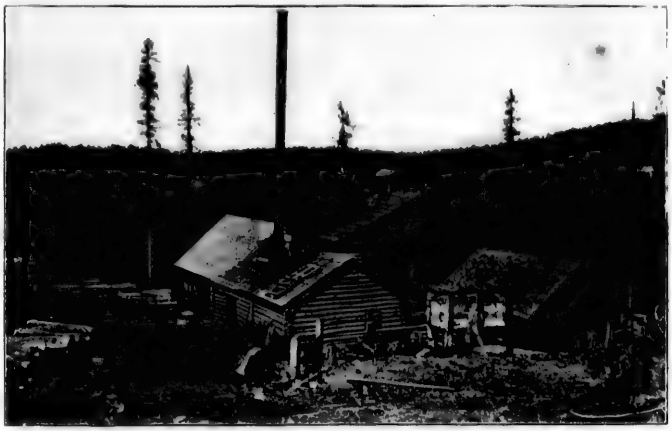
Miner Office



GRAND FORKS CITY COUNCIL.

1. J. K. JOHNSON, City Clerk,
2. L. A. MANLY, Mayor,
3. JOHN A. MANLY, Alderman,
4. JEFF DAVIS, ,,
5. W. B. BOWER, City Treasurer
6. E. DAVEY, Water Comsnr,
7. F. H. KNIGHT, Alderman,
8. H. A. SHEADS, Chief of Police

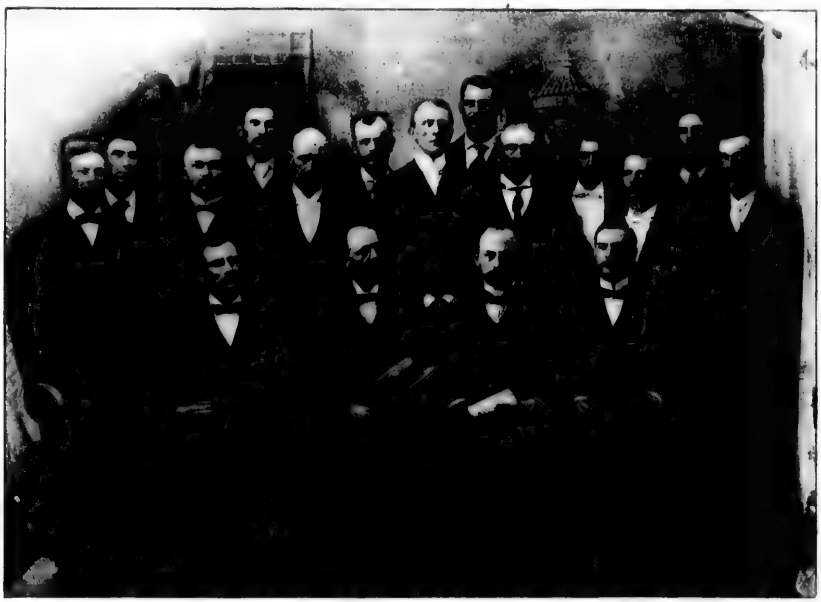
The Grand Forks Board of Trade is having a fine collection of the ores of the Boundary made for display at the Paris Exposition next year. The samples got together seem to prove the mineral wealth of the country. Nearly all the leading mines are represented in the collection



THE OLD IRONSIDES.

Everything is looking well at the Old Ironsides. No. 1 shaft is down 200 feet, and No. 2 has reached a depth of 320 feet. From the first shaft a 100-foot level has been run some 110 feet. On the 200-foot level a 300-foot cross-cut has been made. Drifts are now being run along the foot-wall of the ledge in a northerly and southerly direction, aggregating a distance of 500 feet. The ground is being opened out in blocks of 200 feet square. Several thousand tons of ore lie on the dumps, and the quantity is rapidly increasing. It is intended to accumulate the material until the smelter at Grand Forks is in operation, and here it will be treated. The ore is chiefly composed of hemitite and magnitite iron, carrying good values in silver and gold.

At the Knob Hill the tunnel is in on the ledge about 600 feet. Two cross-cuts have been made from the hanging to the foot-wall, which goes to show that the vein at this point is some 200 feet wide. At a point 400 feet from the entrance of the tunnel an upraise has



GRAND FORKS BOARD OF TRADE.

1. ERNEST MILLER, Sec.; RICHARD ARMSTRONG, President; 3. JOHN A. MANLY, 4. JEFF DAVIS, 5. E. DAVEY, 6. ROBT. PETRIE, 7. J. K. THOMPSON, 8. F. W. ASKEW, 9. F. H. KNIGHT, 10. L. A. MANLY, 11. J. A. SMITH, 12. H. A. SHEADS, 13. E. S. BIDEN, 14. S. P. BIDEN, 15. M. D. WHITE, 16. A. MILTHORN, 17. T. F. CURRAN.

been made for ventilation purposes, which passes what is practically a solid body of ore, a distance of 40 feet. At the mine a large body of ore is awaiting treatment, and will be sent to the smelter at Grand Forks as soon as it can be handled.

Development work goes ahead on all the properties in the camp, and judging from the activity, apparent on all sides, and the great quantity of machinery being installed, this section of the Boundary country will contribute its full quota to the mineral wealth of the province. Last year there were 561 free miners' certificates issued in the Grand Forks mining division, and 860 locations recorded. For the six months ending June 30 last there were 658 assessments put on record.

The following mines in the Boundary are on a shipping basis: The Knob Hill, Old Iron Sides, Winnipeg, Golden Crown, Mother Lode, Sunset, City of Paris, Brooklyn, Stemwinder, Oro Denero, Gold Bug, B.C., R. Bell, and Morrison. About thirty others have passed the prospect stage, and will soon be on the shipping list.

A smelter is now being built at Grand Forks to treat the ores of the Boundary. The building is going ahead at a great rate. It will be equipped with all modern machinery and appliances, and will be capable of handling all the material at present offering. However, should the country continue to develop at the present ratio, the time is not far distant when a second smelter will be a necessity. The C. P. R. people will doubtless supply the want as soon as that time arrives. Just at present, however, the knowledge that smelting facilities will be available, gives a great impetus to mining throughout the whole district.

Knob Hill, Showing Big Cut

Work is progressing satisfactorily on the Volcanic. The ore runs high in gold and copper values, and improves as the mountain is bored.

At the Pathfinder everything is looking well. Shafting and cross-cutting continues, as does the rich body of ore.

The Diamond Hitch continues to justify the fond hopes of its owners.

At the Little Bertha high values are still obtained from the ore taken out in development.

The Three-to-One is doing well.

The War Cloud, Twins and Lilly K. are progressing rapidly.

The Volcanic.

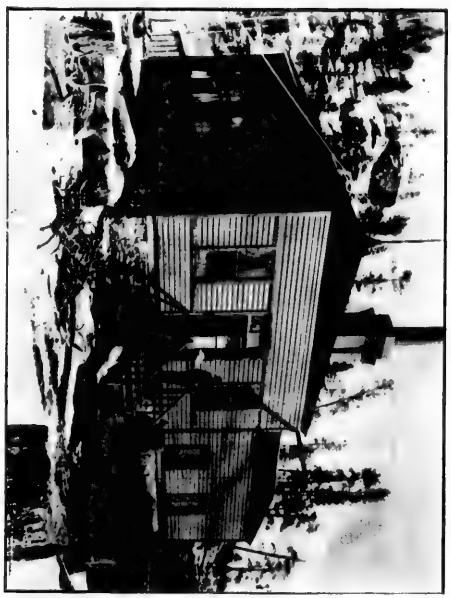
NORTHPORT SMELTER

The Le Roi Co.'s smelter is at Northport, Wash., on the main line of the Spokane Falls & Northern Railway. It has a capacity of 400 tons per day, and is kept busy. An up-to-date stamping mill is installed with a bin capacity of 1,400 tons, a battery of 84 ore roasting stalls, a furnace building with two 38 by 120 copper furnaces, well equipped calcine building, thoroughly furnished electric power house with a dynamo supplying arc and incandescent lamps for lighting the premises, and machine shops for repairs. Cars are loaded at the mines in Rossland and run direct into the smelter, everything being handled expeditiously and at the smallest cost. Work was commenced on the plant in Aug. 1897, and on the 21st January following the smelter was blown in. In addition to treating the output of the Le Roi, considerable custom work is done at the smelter. (See page 16).

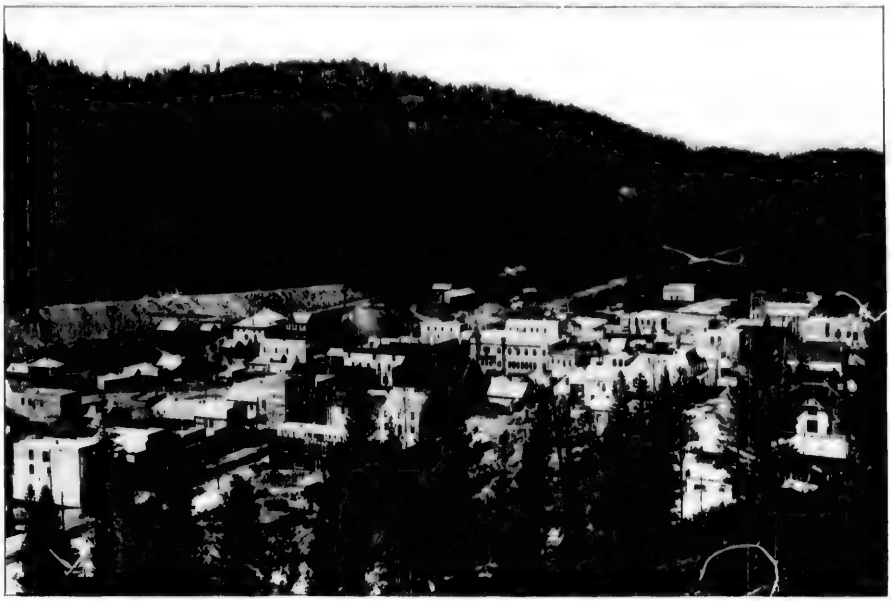
CHARLES CUMMINGS' RESIDENCE, GRAND FORKS, B. C.

J. A. MANLY'S RESIDENCE, GRAND FORKS, B. C.

DR. AVERILL'S RESIDENCE, GRAND FORKS, B. C.



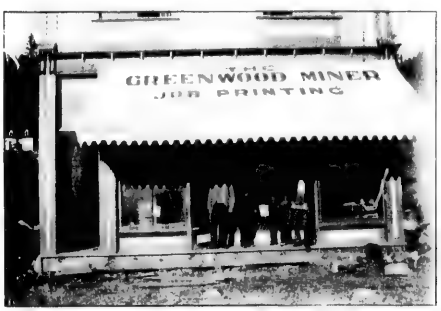
WATER & LIGHT CO., GRAND FORKS, B. C.

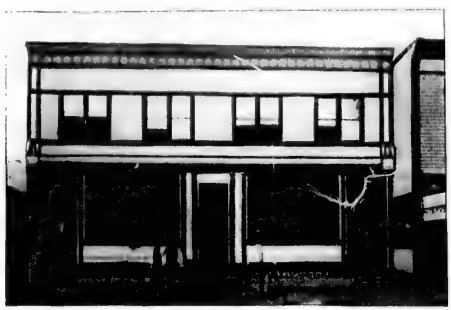


City of Greenwood, B. C.

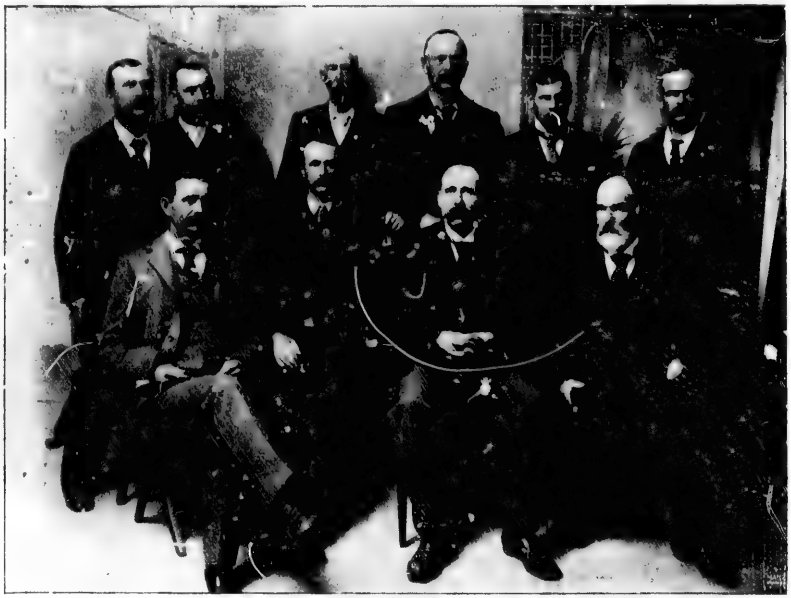
GREENWOOD.

Greenwood is perhaps the oldest settlement in the country. Over forty years ago the wealth of the neighborhood was known to the prospector of that day; but those worthies were after placer diggings, and having hurried over the richer grounds, moved on to California, then attracting much attention. However the first comers gave the district a good name, and this induced others to try their luck in the new country. The art of quartz mining was becoming better known. There could be no mistaking the surface indications shown in the vicinity of Greenwood, and it did not take long to induce practical miners to take a lively interest in these. Once the interest was aroused the grounds were tested and proved of great richness. Claims were staked and worked till the stage was reached where capital was needed to secure the certain profits. This was slow in coming in, chiefly owing to the difficulties of reaching the camp and handling the ore. However, all this has now been overcome. Good roads and trails have been built, railway construction is under way, machinery has been introduced, and capital is freely forthcoming for the working of the good properties in and around the place. The town is a very pretty one, and is rapidly coming to the front. The members of the Board of Trade are very active in guarding the interests of the town,



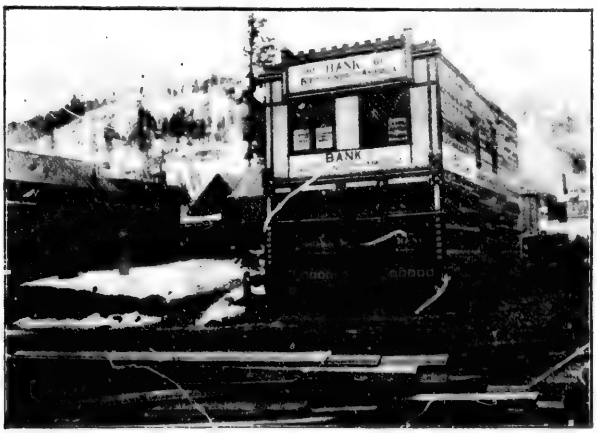


Boundary Creek Times, Greenwood.



CITY COUNCIL, GREENWOOD.

1. Ald. Robt. Wood, 2. R. J. Hardy, Mayor; 3. Ald. C. S. Galloway, 4. Ald. A. J. Cameron, 5. W. J. Nelson, Chief Fire Dept.; 6. G. B. Taylor, City Clerk; 7. Andrew Leamy, City Solicitor; 8. J. McLaren, Chief of Police; 9. J. Hallett, P.M.; 10. Ald. J. Sutherland.



Bank of B. N. A., Greenwood.

Morrison Mine.

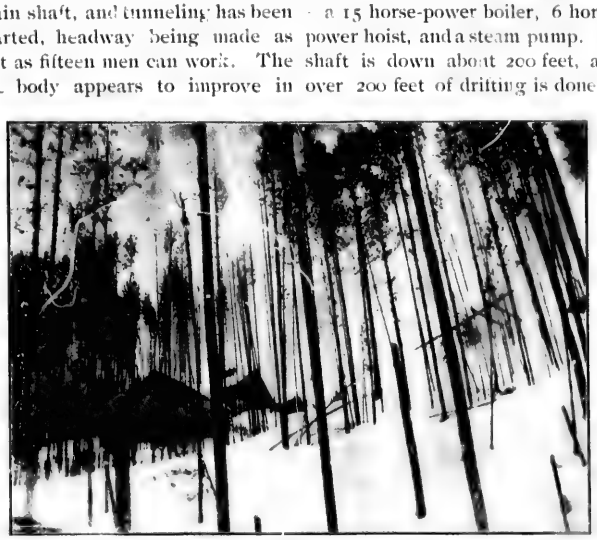
A company, in which McKenzie & Mann and eastern capital are largely interested, has been formed, to work a number of claims in the Greenwood camp, including the Stemwinder, Montezuma, Phœnix, Standard, Brooklyn, Idaho and Rawhide. The Brooklyn and Stemwinder are adjoining properties, and on the latter there is a double compartment shaft, which is down some 200 feet. The Montezuma ledge is being opened up from the Standard, and this from the Brooklyn. The Rawhide is opened up by a tunnel, which is in 400 feet, tapping the vein at a depth of 250 feet. The properties are well equipped with machinery, and it is expected that a spur will be run from the main line of the railway to facilitate the shipping of ore. The ore body is a chalcopyrite with a gangue of lime and silica, and values run high in gold and copper.

Work is proceeding satisfactorily on the Oro Denero mine, in the Summit camp. The necessary machinery is on the ground for carrying on operations, and everything is looking well. A depth of 125 feet has been attained in the main shaft, and tunneling has been started, headway being made as fast as fifteen men can work. The ore body appears to improve in quality and quantity. Recent assays average 27 per cent. copper, 10 ounces silver and $6 in gold.

The Stemwinder.

On the property of the Zela Gold Mining Company, (owned chiefly in Rossland), a shaft is down 150 feet, and a tunnel has been started to tap it. A 40-horse-power boiler and compressor have been ordered, and are expected daily.

At Long Lake camp the Jewel still holds the lead. The first steam plant brought into the district was installed at the Jewel early in 1897 - a 15 horse-power boiler, 6 horse-power hoist, and a steam pump. A shaft is down about 200 feet, and over 200 feet of drifting is done.



The Brooklyn

Surface showings at Kimberly are good, but a sufficient depth has not as yet been attained to determine values.

In Smith's camp the chief properties are the Ruby, Great Hesper, Boundary Falls, Non Such, Republic, Last Chance and Hidden Treasure. On the Non Such probably more work has been done than on the others, and it has turned out well. The ore is iron and copper pyrites in quartz, and assays $20.

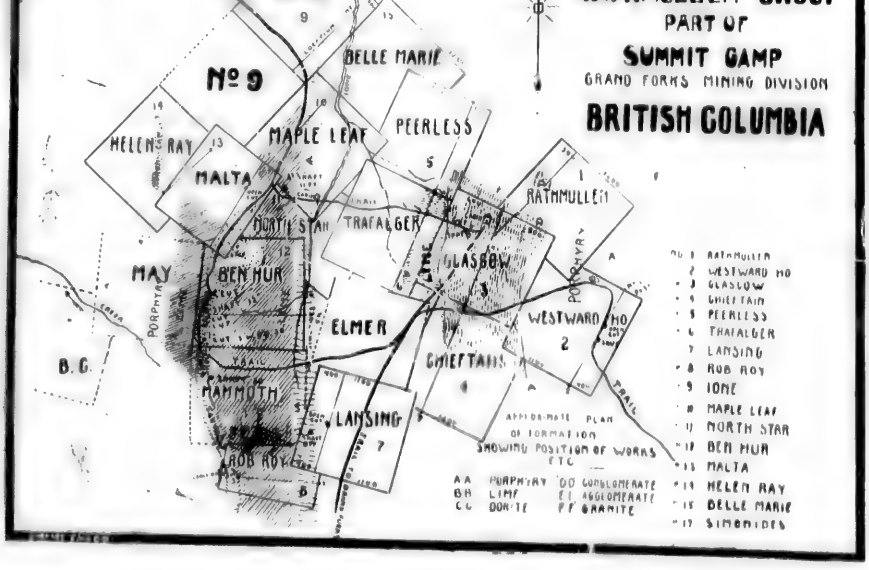
At Central camp sufficient work has been done on the Norfolk to prove that it is a rich property, but for the want of a wagon road through the district operations are retarded. On the City of Paris there is much activity. Here a 10-drill air compressor has been installed. Showings are very rich.

An agreeable strike was made at the Morrison mine, in Deadwood camp, the other day. The ore body appeared to dip out at a depth of 100 feet in the working shaft. At 200 feet it has again been struck, showing 20 feet of ore, and of improved values.

A number of strong companies, representing eastern and British capital are now operating in the Boundary, and with satisfactory results. Prospects are now very bright. No property of merit need lay idle for want of the necessary cash to develop it.

The Rathmullen group is in Grand Forks mining division of Yale district, generally known as the Boundary district. The group consists of sixteen claims and fractional claims of valuable mineral land, situated in the summit camp, about ten miles distant from Grand Forks. The extension of the Canadian Pacific Railway from Grand Forks to Greenwood will soon be completed. The line passes within eight hundred yards of the ground, giving best access for shipping, while there is also a good wagon road to the property from Grand Forks. These 16 claims are in one block, as per accompanying sketch, and include a number ot parallel gold and copper bearing quartz and iron lodes or ledges, exposed on rising ground on both sides of Ione Creek, which runs through the property in a northerly direction, and aggregating an area of over 700 acres of valuable mineral land. The formation, or country rock, consists of limetsone, dark green diabasic rocks and dykes of altered diorite, and the mineral deposits lie in the altered eruptions in which are isolated areas of crystalline limestone and bosses of granitic rock. The elevation is from 3,000 to 3,800 feet above sea level. The mountains are rounded, not high or difficult of access; water is abundant, and the rock of the group being almost self-fluxing, it will not be long before the Rathmullen will have local smelting facilities, and indications are not wanting that this will be in the immediate future. The group consists of the following lode claims: The Rathmullen, Peerless, Maple Leaf, Ione, Helen Ray, Malta, North Star, Trafalgar, Glasgow, Lansing, Westward Ho, Chieftain, Ben Hur, Rob Roy, Toledo and Belle Marie. The Maple Leaf claim is now equipped with machinery, and the present shaft will be continued to the 300-foot level. The present lead is thirty feet wide, with a pay streak two feet wide of $60 ore. The Ben Hur and Rob Roy claims have running through their entire length a fine vein of copper and iron pyrites, which, at a depth of twenty feet, assayed 9.5 per cent. copper, 5.5 ounces silver, giving $36 in all values per ton. Sinking will be continued on the Ben Hur. The vein is a contact of porphyry to the east and lime rock to the west. The Helen Ray, Lansing, Glasgow, Westward Ho, Belle Marie and Trafalgar claims have all shafts sunk upon them to varying depths. Practical and systematic development work has been done on all of them, with most satisfactory results, and it has been fully demonstrated that there are several distinct veins upon the property, the width of the main vein being over thirty feet. Assays from the different workings average high and point clearly to the fact that as soon as the railway can give transportation—say by October of the present year Rathmullen will be a shipper.

On the Snow Shoe considerable work has been done. Last year this property was bonded by an English syndicate for $65,000. A shaft has been sunk some 185 feet.



GOLDEN CROWN (WINTER).

The Golden Crown, the property of the Brandon Golden Crown Mining Co., the stock in which is very largely owned by Brandon, Man., and Rossland people, is one of the leading properties about Greenwood, and promises in the very near future to become a dividend payer. Steady and systematic work has been prosecuted since the purchase of the property by the company, in January, 1897, and it is generally conceded that the management are to be congratulated on the practical and economical manner in which the large amount of development work has been accomplished. An average of fifteen men have been engaged in development since the acquisition of the property, and there has been no suspension of operations, except for a short time in the summer of 1898, when an inflow of water rendered work impossible. This, however, cannot occur again as means have been taken to obviate it by drawing the water into a sump. To afford some idea of the economy that has been displayed in the working of the property we will quote from the company's last annual report the total cost per foot of the various workings : Shaft, 154 feet, (including timbering throughout), $40 51; cross-cut and drift, 221 feet, $14 52; upraise, 66 feet, $15.67 ; winze, 17 feet, $23 49. The formation in the shaft shows the mine to have a diorite hanging wall, the footwall being an altered gabbro. The general character of the ore may be described as pyrrhotite and copper pyrites in a silicious gangue. The average values obtained from careful sampling have been most satisfactory, showing from 17 assays $28 10 in gold and 2 per cent. copper. At the annual meeting of the company, held at Greenwood, on the 15th March last, it was concluded to at once install a five-drill compressor. This has been done, the necessary machinery being installed by the Jenckes Machine Co. of Sherbrook, Que., which gives every satisfaction. There are thousands of tons of ore now on the dump, ready to be shipped to the nearest smelter as soon as the C. & W. Railroad (a spur of which will pass within 100 feet of the shaft house), reaches the mine and affords the necessary facilities. Large bodies of ore are also being blocked out, so that when shipment does commence it may be steady and continuous. Hon. T. M. Daly, Q. C., is president of the company; Mr. W. J. Potter, of Greenwood, vice president ; Mr. Geo. H. Collins, of Greenwood, managing director; and Mr. W. L. Orde, of Rossland, secretary-treasurer. That the mine will soon be a dividend payer seems beyond peradventure.

At the B. C. Mine, in the Summit camp, active preparations are being made to ship on a large scale as soon as railway facilities are afforded. There are two immense dumps on the ground—one of 4,000 tons, which will yeild from 25 to 30 per cent. copper, and 30 ounces silver to the ton; the other an 8,000 ton heap, which will give returns of 10 per cent. copper and 6 ounces silver.

GOLDEN CROWN (SUMMER).

WINNIPEG MINE.

MOTHER LODE.

The Mother Lode is one of the great properties in Deadwood camp. It is a wonderful sight, with its rich out-cropping, standing boldly to view for 1,000 feet along the hill in which it occurs, and rising to a hight of nearly 300 feet. The mine is fully equipped with machinery, and is being systematically worked.

The geological features of the Boundary Creek district are truly "varied and interesting," as one expert puts it. Perhaps it would be as well to give the principal characteristics of some of the leading camps:

Graham's Camp—Big surface showings of copper ore assaying well in gold and silver.

Smith's Camp—Veins one foot to eight feet wide; ores carrying gold and silver in silicious gangue.

Copper Camp—Large bodies of cuprite and chalcocite, carrying some gold and silver.

Deadwood Camp—Large bodies of copper-gold and iron-gold ores.

Kimberley Camp—Big quartz leads and iron cappings, with ores carrying gold and silver.

Long Lake Camp—Veins one foot to eight feet wide; silver-gold ores with some copper and silicious gangue.

Summit Camp—Ore bodies 10 to 50 feet wide; copper pyrites, carrying gold and silver.

Wellington Camp—Ore bodies from 3 to 20 feet wide; copper-iron pyrites and pyrrhotite in a silicious gangue.

Greenwood Camp—Ore bodies from 10 to 300 feet wide; copper pyrites carrying gold.

Providence Camp—Silver-gold ores; veins from 6 inches to 4 feet wide.

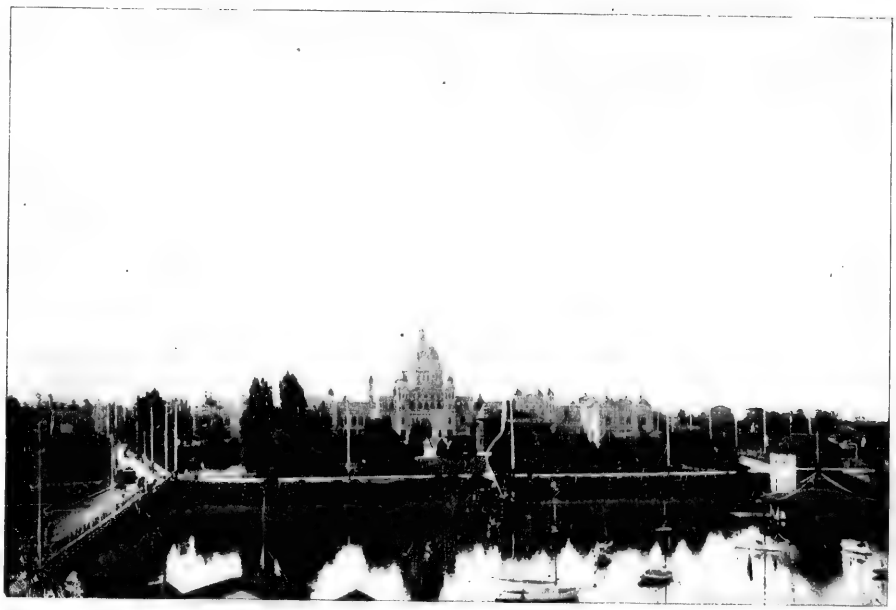
Skylark Camp—Silver-gold and copper-gold ores.

Central Camp (including Atwood's Douglas' and White's camps)—Veins 2 to 12 feet wide; ores copper, gold and silver.

TROUT LAKE.

In the last annual report of the gold commissioner for the Trout Lake mining division, it is stated: "This camp only requires transportation facilities to make it a most important one, but owing to the lack of the same progress is materially retarded." It is to be regretted that a district so rich in minerals should be thus handicapped, but there is every prospect that the necessary accommodation will be provided without delay. Navigation has been improved, roads partially opened up, and a couple of railways are under way through the Lardeau-Duncan. It was our intention to have the Trout Lake country covered by our special representatives and to have fully illustrated it, but we found traveling so tedious, that within the time at our disposal we could not do it justice. We were, therefore, reluctantly obliged to defer our visit to this important section of the Kootenays; but it shall receive our special attention within the next two months.

SHAFT AND GALLOWS FRAME, MOTHER LODE.



PARLIAMENT BUILDINGS, VICTORIA, CAPITAL OF BRITISH COLUMBIA.

CROWN-GRANTS.

A good indication of the activity in the mining of the Kootenays is the increasing number of claims annually crown-granted. Before a crown-grant can be obtained a specific amount of work must be done —sufficient to prove that the locator or holder of the claim means business. Three years are allowed to do this assessment work, and if within that period it be not done, the claim is forfeited. If on the first or second assessment the claim does not show up satisfactory it is invariably abandoned, so that when a crown-grant is applied for it may reasonably be inferred that the property is a promising one and that the applicant's title thereto is clear. For the year 1897 there were 334 claims crown-granted in the Kootenays. Last year the total reached 404, and for the first six months of the current year 256.

RAILWAYS AND STEAMSHIPS.

For years the great drawback to the speedy progress of the Kootenays was the lack of traveling and freighting facilities. The country is an essentially mountainous region presenting many serious engineering difficulties in railway construction with attendant heavy cost. Its exceptional wealth alone could induce railway and steamship companies to incur the great expense of introducing a service ; but it has proved the attraction, and to-day the Kootenays enjoy an exceptionally good service in both particulars considering that it is only within the past few years the rich mineral deposits have become known. As might be expected, the great national line, the Canadian Pacific Railway, control the greatest mileage. Their various branch lines and main cover 395 miles in the Kootenays, while their palatial steamships give first-class service over 243 miles of waterway. The company have also under construction 155 miles of road to tap the Boundary Creek country, some 35 or 40 miles of which will run through Kootenay territory. The Kootenay Railway & Navigation Co. operate 35 miles of railway, and have under construction some 35 miles of road into the Lardeau-Duncan district, and 30 from Kuskanook to Bonner's Ferry. They also operate one hundred miles of steamship route. The service afforded by this company is excellent. The Spokane Falls & Northern & Red Mountain Railway Co. control 80 miles of road in the Kootenays. Besides the services here enumerated, there is every indication that in the near future a still greater area will be opened up by the "iron horse," as charters are being applied for to build into districts not already covered.

DIVIDEND-PAYING MINES.

It is a difficult matter to give a complete list of the dividend-paying mines of the Kootenays, as several of these are held by companies who do not make public the amount paid over to their stockholders annually. However, sufficient data is to hand to show that the mines of the Kootenays are a profitable investment. We cannot vouch for every figure here given, as we can only approximate some of the dividends paid. The Poorman, for instance, was worked for some eight or ten years as a private concern, and is said to have netted the Davenports of Spokane $20,000 a year during this period. Other properties have paid dividends of which we have no record.

The Fern has paid dividends of five cents per share amounting to $10,000.

The Hall Mines have paid 15 per cent on the ordinary stock and 7 per cent on preferred.

The Le Roi paid its last dividend of 10 cents per share in April, 1898, —$825,000. This does not include $150,000 which the holders of shares received after the property was sold to the British America Corporation for the ore and matte that was at the smelter, nor does it include the smelter at Northport, which cost $200-000.

The Rambler-Cariboo, has paid $50,000 in dividends.

The Payne Consolidated has paid $1,025,000.

The War Eagle paid its last dividend in May, 1899,—1½ cents per share.

The Queen Bess has paid in dividends $12,500.

The Slocan Star has netted its stockholders $400,000.

The Reco has paid in dividends $287,500.

The Idaho has paid dividends totalling $220,000.

The Goodenough has enriched its owners to the extent of $32,500.

The Last Chance has paid $37-500.

The Ruth contributed $115,600 to the total dividends paid by the mines of the Kootenays.

The Alamo, Cumberland, and Noble Five have also paid dividends as well as others not here mentioned for reasons above stated.

GEOLOGICAL FORMATIONS.

The geological formation varies considerably in different sections of the Kootenays. In the Trail Creek district, for instance, the most notable feature is the marked predominance of rocks of igneous origin. Two great series are represented, the older consisting of porphyrites, diabases, gabbros, tuffs and agglomerates, and the younger of granites; while in the Slocan granite and granitoid rock take the lead. The Slocan is consequently a silver-lead producer. At Ainsworth the ores vary from a solid galena with zinc blende through quartz and calcite carrying sulphides with little galena and zinc blende, quartz and lime carrying silver in other compounds, galena with gold disseminated through the quartz, tetrahedrite in quartz with galena, to a low grade ore carrying galena, iron and copper pyrites and pyrrhotite. In the Nelson district there is gold-copper and silver-copper ore bodies of great size and considerable free-milling material.

MINING MACHINERY.

The following is a list of mining plants in operation in East and West Kootenay:

ROSSLAND DISTRICT.

War Eagle Mine—One 40-drill duplex Ingersoll - Sergeant air compressor, electrically driven; one Cross Corliss Rand air compressor, 20-drill capacity; one 300-horse power double drum, electrically driven hoisting engine, capacity 16,000 lbs., 800 feet per minute to a depth of 3,000 feet, built by James Cooper Manufacturing company, Montreal; two 100-horse power Ingersoll boilers; one geared hoisting engine, Fraser & Chalmers; 20 Ingersoll-Sergeant drills; three Rand drills; five sinking and station pumps, complement of air receivers, small pumps, etc. Electrical machinery furnished by General Electric company, Peterboro', Ont.

Le Roi Mine—One 40-drill Cross Corliss Rand compressor; two 80-horse power Ingersoll boilers; three 125-horse power Ingersoll boilers; one 100 h.p. Ingersoll boiler; one 80-horse power Fraser & Chalmers one 80-horse power Fraser & Chalmers boiler; eight Rand drills; 18 Ingersoll-Sergeant drills; three small hoisting engines; one large 300-horse power direct acting winding engine, manufactured by James Cooper Manufacturing company; three sinking pumps, station and small pumps, ane electric light plant, including one 40 horse power Westinghouse engine; machine saw for tomber framing, etc.; one 150-horse power electric hoisting engine, Denver Engineering Works.

Kootenay and Columbia Mine—One 30-drill Corliss Ingersoll-Sergeant air compressor; three 100-horse power boilers; one 10 x 12 hoisting engine, American manufacture (Lidgerwood); 10 Ingersoll-Sergeant drills; complement of receivers, pumps, etc.

Josie Mine—One five-drill Ingersoll-Sergeant air compressor; one 60-horse power boiler; six Ingersoll-Sergeant drills; plant built by James Cooper Manufacturing company.

Nickel Plate Mining Company—Two 60-horse power return tubular boilers; one 12-drill Ingersoll-Sergeant compressor; one hoisting engine; six Sergeant drills; two Cameron sinking pumps; one station pump (Knowles); plant built by James Cooper Manufacturing company.

Great Western Gold Mining Company—One 60-horse power tubular boiler; one 8x10 hoisting engine; one 30-horse power boiler; seven Ingersoll drills; plant built by James Cooper Manufacturing company. This mine is supplied with air from the Nickle Plate mine.

No. 1 Mine—One 60-horse power tubular boiler; one 40-horse power hoisting engine; sinking pump and station pumps, four Ingersoll drills; plant supplied by James Cooper Manufacturing Co. The air for this mine is supplied by the Le Roi plant.

Centre Star Mining Company—One 7 drill Ingersoll-Sergeant air compressor; one 80-horse power boiler; five Ingersoll-Sergeant drills; two Rand drills; one small hoisting engine. A duplicate of the War Eagle plant is now being built for this mine.

Rossland Red Mountain—One 5-drill Rand air compressor; one 60-horse power boiler; three Rand drills; plant supplied by Jenckes Machine Co. and Rand Drill Co.

Iron Mask Gold Mining Company—One 10-drill duplex Rand compressor, electrically driven; two duplex pumps; one 10x14 hoisting engine, Fraser & Chalmers; one 8x10 hoisting engine, Fraser & Chalmers; five Rand drills.

Monte Christo Mining Company—One 7-drill Ingersoll air compressor; one 80-horse power boiler; five Ingersoll-Sergeant drills; receiver, pipe line, etc.; plant built by James Cooper Manufacturing Co.

Virginia Mining Company—One 8x10 hoisting engine, Jenckes Machine Co.; two Ingersoll drills; two Rand drills, one large air receiver, etc. This mine is supplied with air from Monte Christo compressor.

Iron Colt Mining Company—One four-drill Ingersoll air compressor; one 40-horse power return tubular boiler; one Rand drill; one Ingersoll-Sergeant drill; plant built by James Cooper Manufacturing company.

O. K. Mining Company—One 10-stamp mill (Jenckes Machine Co.); one four-drill Rand air compressor; two Rand drills.

Cliff Mining Company—One two-drill compressor; one 50-horse power boiler; two Rand drills; plant built by Jenckes Machine Co. and Rand Drill Co.

City of Spokane Mining Company—One three-drill Rand air compressor; one 50-horse power boiler; two air drills; air receivers, etc.; plant built by Jenckes Machine Co.

Lily May Gold Mining Company—One four-drill Ingersoll-Sergeant air compressor; one 60-horse power boiler; one 6 x8 hoisting engine; two air drills; plant supplied by James Cooper Manufacturing Co.

Homestake Gold Mining Company—One five-drill Ingersoll-Sergeant air compressor; one 80-horse power boiler, air receivers, etc; one 8 x 10 hoisting engine; one sinking pump; five Ingersoll drills; plant supplied by James Cooper Manufacturing Co.

Crown Point Mining Company—One four-drill Rand air compressor; one 60-horse power boiler; three Rand drills; receiver, etc.; plant built by Jenckes Machine Co., and Rand Drill Co.

Deer Park Gold Mining Company—One 80-horse power tubular boiler; one 50-horse power boiler; one seven-drill Ingersoll-Sergeant air compressor and receiver; one 30-horse power hoisting engine; six Ingersoll drills; one Cameron sinking pump; one Knowles station pump.

Sunset No. 2—One 7-drill Ingersoll air compressor; one 80-horse power boiler; one 30-horse power hoisting engine; one Cameron sinking pump; six Ingersoll drills; plant built by James Cooper Manufacturing Co.

Gopher Mining Company—This company get their air from the Robert E. Lee Mining company, and are using two Ingersoll drills.

Commander Mining Company—One Tubular boiler; one small Rand air compressor; one hoisting engine.

Mayflower Gold Mining Company—One 30-horse power hoisting engine and boiler and sinking pump; built by the James Cooper Manufacturing Co.

Robert E. Lee Mine—One 7-drill Ingersoll-Sergeant air compressor; one 100-horse power boiler; one 30-horse power hoisting engine; six Ingersoll-Sergeant drills; one sinking pump, receivers, etc.; plant built by the James Cooper Manufacturing Co.

Velvet Mine—One 60-horse power return tubular boiler; one 30-horse power boiler; one 30-horse power hoisting engine; built by James Cooper Manufacturing Co.

Silver Bell Mining Company—One vertical boiler and hoisting engine; built by Jenckes Machine Co.

Blue Bell Mining Company—One 25 horse power boiler; one small hoisting engine (American manufacture); one Rand drill.

Iron Horse Mining Company—One 80-horse power return tubular boiler; one 7-drill Ingersoll-Sergeant air compressor; one hoisting engine; receivers, pumps and drills; plant supplied by James Cooper Manufacturing Co.

Mascot Mine—One 7-drill Ingersoll-Sergeant air compressor, driven by 100-horse power electric motor; three Ingersoll drills; one Rand drill; receivers, pumps, etc.

Gertrude Mine—One 20-horse power electrically driven hoisting engine, pumps, etc.; supplied by James Cooper Manufacturing Co.

Coxey Mine—One 20-horse power electrically driven hoisting engine, pumps, etc.

Umatilla Gold Mining Company—(Sophie Mountain)—One 40-horse power tubular boiler; one 20-horse power hoisting engine; one small Ingersoll-Sergeant air compressor and drills; one Cameron sinking pump, etc.; plant supplied by James Cooper Manufacturing Co.

Green Mountain—One Knowles sinking pump; one 40-horse power locomotive boiler and hoisting engine; supplied by James Cooper Manufacturing Co. and Jenckes Machine Co.

British Columbia Bullion Extraction Company—Pelatan-Clerici extraction plant and machinery, consisting of electrically-driven crusher, rolls, grinding and amalgamating vats, concentrators, etc.; American manufacture.

Iron Mask—One 50-horse power "Ske" indetor, type 3-phase motor; one 5-horse power "Ske" induction motor, by Royal Electric Co.

NELSON DISTRICT.

Hall Mines (At Mine)—Three Ingersoll-Sergeant air compressors, (two 10- and one four-drill); five boilers (Ingersoll, three 60, one 80- one 40-horse power); one 16 x 36 Corliss engine; 22 Ingersoll-Sergeant drills; one rock crusher; three hoisting engines; two Sullivan diamond drills; air receivers; pipe lines, machine shop containing lathe, drill presses, etc; one Hallidie aerial tramway in two sections four and one-half miles long to smelter, capacity up to 300 tons per day. Smelter capacity 500 tons per day, copper and lead; plant three rock crushers, three sets of rolls, two blast furnaces, sampling mill, two blowing engines, 16 x 36 Corliss engine; three 80-horse power boilers, etc.

Poorman Mines—One 10-stamp mill, American manufacture, Fraser & Chalmers; one three-drill belt compressor, Rand; one 20-horse power hoisting engine and boiler; two Rand drills.

Duncan Mines—One 30-horse power boiler, hoist and Cameron sinking pump.

Athabasca Mine—One 10-stamp mill, vanners, etc.; one hoisting engine; pump, etc. (Fraser & Chalmers.)

Fern Mine—One 20-stamp mill (Union Iron Works, San Francisco), complete with vanners and cyaniding tanks; two

50-horse power boilers; one five-drill Ingersoll-Sergeant air compressor, receivers, etc.; five Ingersoll drills.

Ymir Mine—One 40-stamp mill, with concentrating machinery, built by Fraser & Chalmers; one three-drill Rand compressor; two Rand drills; one 40-horse power locomotive boiler; pumps, etc.

Dundee Gold Mining Company—One 30-horse power boiler and hoisting engine; two Ingersoll-Sergeant drills; one Cameron sinking pump; plant built by James Cooper Manufacturing Co.

Arlington Mine (Acme)—One tubular boiler; one 20-horse power hoisting engine; one Cameron sinking pump.

Yellowstone Mine—Two 30-horse power boilers; two Rand drills; one four-drill Ingersoll-Sergeant air compressor, pumps, etc.

Fern Mine—One 10-Kilowatts plant complete by Royal Electric Co.

SLOCAN DISTRICT.

Slocan Star Mine (Byron N. White company)—One 120-ton concentrating mill built by E. P. Allis Co., Milwaukee, Wis.; one four-drill Rand air compressor, two 50-horse power boilers; three Ingersoll-Sergeant drills; one surface tram from mine to mill; receiver; saw mill; etc.

Galena Mines—One six-drill Rand compressor; one 40-horse power boiler; three Rand drills; one large water power hoisting engine, Pelton wheel and pipe line, by Pelton Water Wheel Co.; two sinking pumps, (one Cameron, one Knowles.)

Noble Five Mine—One 120-ton concentrating mill, built by E. P. Allis Co., Milwaukee; one aerial tramway (Finlaison), capacity 480 tons per day, length 6,000 feet; built by the Colorado Iron Works, Denver, Col.; one 12-drill Ingersoll-Sergeant air compressor; four Ingersoll-Sergeant drills; receivers: Pelton wheel, etc.

Ruth Mines—One seven-drill Ingersoll-Sergeant air compressor; one 80-horse power economic boiler; six IngersollSergeant drills; receiver, etc; one saw mill, including 10 x 16 horizontal engine, built by W. M. Hamilton & Sons, Peterboro. There is being constructed on this property a concentrating mill of 100 tons capacity built by the E. P. Allis Co., Milwaukee; and an aerial tramway under construction by B. C. Riblet.

Lucky Jim Mine—One 3-drill Rand air compressor; one 40-horse power boiler; two air drills built by Rand Drill Co. and Jenckes Machine Co.

Dardanelles Mine—One 3-drill compressor; one 40-horse power boiler; two Rand drills; two Ingersoll-Sergeant drills; one Cameron sinking pump.

Antoine Mine—One 20-horse power hoisting engine and boiler; one small sinking pump, (American Manufacture).

Washington Mine—One 40-ton concentrating mill, built by Jenckes Machine Co.

Alamo Mine—One 75-ton concentrating mill, built by Fraser & Chalmers, operated by Pelton wheel: one surface tramway.

Ivanhoe Mine—One five-drill Ingersoll-Sergeant air compressor; 60-horse power boiler; four Sergeant drills; pumps; etc.

Northern Bell—One small donkey hoist, (American manufacture).

Whitewater Deep Mine—One 12-drill Ingersoll-Sergeant air compressor; four Ingersoll drills; one 40-horse power hoisting engine; one Cameron sinking and other pumps; one Pelton wheel; 4,000 feet steel pipe line; one electric light dynamo; sawmill, etc.; plant supplied by James Cooper Manufacturing Co.

Whitewater Mine—One 100-ton silver-lead concentrating mill; built by E. P. Allis, Milwaukee.

Arlington Mine—(Slocan City)—Hoist and boiler and sinking pump, (Cameron).

AINSWORTH DISTRICT.

Highlander Mine—One hoisting engine and boiler; built by Jenckes Machine Co.

Evening Star Mine (Slocan City—One 20-horse power hoisting engine, boiler and pump; built by the James Cooper Manufacturing Co.

No. 1 Mine and Highlander Mine (H. M. Stevenson)—One 50-ton silver-lead concentrator, built in United States; one 4-drill Ingersoll-Sergeant air compressor; three Ingersoll drills; one Pelton wheel, operated under 1,080-foot head.

Canadian Pacific Mining & Smelting Company—One 50-ton concentrating mill, built in Missouri, U. S. A.; one 10-drill Ingersoll-Sergeant ar compressor; four Ingersoll drills; Pelton wheel, receivers, etc.

Montezuma Mine—One 100-ton concentrator and ariel tramway, (concentrator by E. P. Allis); one 2-drill Rand compressor; one air drill; compressor operated by Pelton wheel

Blue Bell Mine—One 12-inch Allis air compressor; one 50-horse power boiler; two Rand drills; two Ingersoll drills; receivers, etc.

Pilot Bay Smelter and Concentrator—One 100-ton lead concentrating mill; two blast furnaces; two return tubular boilers, crushers, rolls, etc.; the whole plant supplied by the Chicago Iron Works.

EAST KOOTENAY DISTRICT.

Lake Shore Mine, Moyie—One seven-drill Ingersoll-Sergeant air compressor; five Sergeant drills; 80-hose power boiler, condenser, pumps, etc.; plant built by James Cooper Manufacturing Co., Montreal.

Thunder Hill Mining Company—One 80-ton silver-lead concentrating plant, built by the Chicago Iron Works; Ingersoll-Sergeant air compressor and drills; surface tramway; etc.

North Star Mine—Two tubular boilers, 30- and 50-horse power; one 40-horse power hoisting engine; sinking and other pumps; etc., built by the James Cooper Manufacturing Co.

Sullivan Mines—One 30-horse power tubular boiler; hoisting engine; sinking pump; etc., built by the James Cooper Manufacturing Co.

St. Eugene Mine—One 120-ton silver lead concentrator of American manufacture; one arial tramway, built by R. C. Riblet; one 10-drill Rand air compressor and four Rand drills.

BOUNDARY DISTRICT, WEST KOOTENAY, WELLINGTON AND GREENWOOD CAMPS.

Brandon and Golden Crown—One 60-horse power boiler; one 50-horse power locomotive boiler; one 30-horse power hoisting engine and Knowles sinking pump, supplied by the James Cooper Manufacturing Co.; one four-drill Rand air compressor and Rand drills.

Snow Shoe Mine—One 50-horse power locomotive boiler; hoisting engine; sinking pump; etc.; built by James Cooper Manufacturing Co.

Winnipeg Mine—One 20-horse power hoisting engine; boiler and sinking pump, supplied by the Jenckes Machine Co.; one two-drill Rand compressor.

Brooklyn Mine—Two horizontal return tubular boilers; hoisting engine; sinking pump; etc.; supplied by the James Cooper Manufacturing Co.

Stemwinder Mine—One hoisting plant, supplied by the James Cooper Manufacturing Co.

Old Ironsides—One 10-drill Rand air compressor; two 10-horse power boilers; three Rand drills; pumps, etc., supplied by Jenckes Machine Co.

Knob Hill—This company is using two drills and getting their air from the Old Ironsides plant.

Athelstane Mine—One 30-horse power hoisting engine; boiler; sinking pump; etc.; supplied by the James Cooper Manufacturing Co.

Dominion Copper Company—One five-drill Ingersoll-Sergeant air compressor plant, including 80-horse power boiler; five drills; pumps; etc.

SUMMIT CAMP.

B. C. Mine—One 20-drill compound duplex Ingersoll-Sergeant air compressor; three 80-horse power return tubular boilers; one 100-horse power hoisting engine; Ingersoll drills, pumps, cages, etc.; small auxiliary plant on this property supplied by the Jenckes Machine Co.

Oro Denoro—One 40-horse power return tubular boiler; one 20-horse power hoisting engine; compressor and Ingersoll drills, sinking pump, etc., etc., built by James Cooper Manufacturing Co.

City of Paris—One 10-drill Rand compressor; Rand drills; one return tubular boiler; sinking pump, etc.; built by the Jenckes Machine Co. and the Rand Drill Co.

Rathmullen—One 2-drill Rand compressor, boiler and hoist.

DEADWOOD CAMP.

Mother Lode Mine—One 12-drill Ingersoll-Sergeant air compressor; two 100-horse power boilers; one 40-horse power hoisting engine; sinking and other pumps, receivers etc.; plant built by James Cooper Manufacturing Co.

Sunset Mine—One 20-drill Ingersoll-Sergeant air compressor; 10 Sergeant drills; 100-horse power hoisting engine; three 80-horse power boilers, pumps, cage, etc.

Morrison Mine—One 30-horse power hoisting engine, boiler pumps, etc.; supplied by James Cooper Manufacturing Co.

CAMP MCKINNEY.

Cariboo Mine—One 20-stamp mill, complete with vanners, etc.; one 7-drill air compressor; plant supplied by the Jenckes Machine Co. and Rand Drill Co.

Minnehaha Mine—One 10-stamp mill; one 5-drill Ingersoll-Sergeant air compressor; return tubular boilers, hoisting engines, drills and pumps; supplied by the James Cooper Manufacturing Co.

LONG LAKE CAMP.

Jewel Mine—One small prospecting plant (American manufacture).

The electric plant supplying power at the offices of the Standard Publishing Company was also supplied by the Royal

Electric Light Co., and here, as everywhere, has given satisfaction.

The Royal Electric Company has supplied the electric plant for the town of Kaslo.

The coal mines of Fernie have two 100-Kowatts direct current dynamos for power and light supplied by the Royal Electric company.

KOOTENAY MINES.

The following is a list of the properties in Kootenay which are shipping mines and also of those being developed at the various mining points. On some of the latter work has been temporarily suspended.

Shipping.	Nelson.	Developing.
Silver King		Last Chance
Athabaska		Granite
Fern		Royal Canadian
———		Exchequer
———		Golden Dale
———		California
———		Juneau
———		Duncan
———		Gold Hill
———		Silver Crown
———		Northern Light
———		Poorman
	Rossland.	
Le Roi		Columbia & Kootenay
War Eagle		
Iron Mask		Great Western
Deer Park		Sunset No. 2
Centre Star		Giant
Evening Star		Nickel Plate
———		Josie
———		No. 1
———		Snowshoe
———		Monte Cristo
———		Homestake
———		R. E. Lee
———		Gopher
———		Gertrude
———		Good Hope
———		Commander
———		Velvet
———		Grand Prize
———		Iron Horse
———		Victory-Triumph
———		Novelty
———		Keystone
———		Iron Colt
———		Virginia
———		Big Four
———		Jumbo
———		White Bear
———		Abe Lincoln
———		Anaconda Con
———		Joseph Leiter
———		Wallingford
———		Annie
———		Jo-Jo
———		Coxey
———		Eureka
———		Leiter
———		Mabel

Shipping	Ainsworth.	Developing
No. 1		Black Diamond
Tariff		Tamarac
Silver Glance		Rand
———		Highland
———		Alberta
	Whitewater.	
Whitewater		Charleston
Jackson		Hillside
———		Alexander
———		Whitewater Deep
———		Elkhorn
———		Wellington
———		Bell
	Kaslo.	
———		True Blue
———		Leviathan
———		Bismarck Group
———		Montezuma
———		Liberty-Hill
———		Pendora
	Cody.	
Blue Bird		Ruby Silver
Noble Five		Freddie Lee
	Three Forks.	
Idaho		Cinderella
Queen Bess		
Monitor		
Wild Goose		
	Sproule.	
———		Carbonate No. 2
———		Fourth of July
———		Texas
	Crawford Bay.	
———		London Con.
———		Richilieu
———		Humboldt
	Kokanee Creek.	
———		Molly Gibson
	McGuigan.	
Rambler-Cariboo		California
Dardanelles		Slocan Boy
Sapphire		Washington
Antoine		Lone Jack
———		Silver Bell No. 2
———		Surprise
	Sandon.	
Payne		Adams Group
Last Chance		Goodenough
Ruth		Canadian Group
Trade Dollar		Palmetto
Sovereign		Wonderful
Ivanhoe		Heather Bell
Millar Creek		Vulture
Reco		Corie
R. E. Lee		Sunshine
Slocan Star		Yakima
Treasure Vault		Donnelly Group
Ajax		
Madden Group		
	Slocan City.	
Shipping.		Developing.
———		Arlington
———		Two Friends
———		Evening Star
———		Calumet & Hecla
———		Bank of England
———		Chapleau
———		Golden Wedge
Black Prince		

Shipping.	Ten Mile.	Developing.
Enterprise		Dalhousie
———		Glad Tidings
———		Neepawa
———		Mollie
	Silverton.	
Wakefield		Congo
Comstock		Sultana
Fidelity		Edinborough
Emily-Edith		Bartlett
Vancouver		
Noonday		
	Moyie.	
St Eugene		Queen of Hills
Lake Shore.		Peter
———		Society Girl
———		Aurora
	New Denver.	
Bosun		Hatney
———		Marian
———		Royal Five
———		Mollie Hughes
———		Convention
———		Mary Durham
———		Neglected
———		Mero
———		Sarah Jane
	Ymir.	
Ymir		Jubilee
Dundee		Blue-eyed Nellie
Blackcock		Tamarac
Porto Reco		Rio Grande
———		Sadie
———		Porcupine
———		Canadian Belle
———		Flossie R
———		Dumas
———		Fairmont Evng Star
———		Bullion
———		Wilcox
———		Big Horn
———		Union Jack
———		Great Western
———		Ymir Belle
———		New Victor
	Camp Mansfield.	
———		Joker
	Erie.	
Arlington		Singleheart
Second Relief		Waffer
———		Sunshine
———		Deer Trail
———		Ontario
———		Bella & Rosa
	Salmo.	
———		Yellowstone
———		Salmo Con.
	Trout Lake.	
———		St. Elmo
———		Beatrice
———		Silver Queen
———		Nettie L
———		Towser

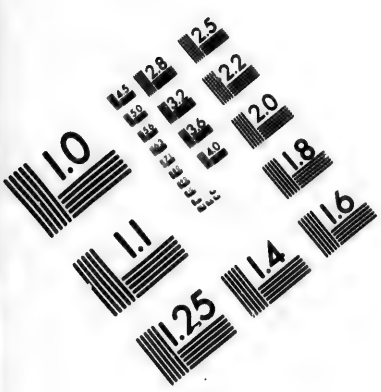
THE BOUNDARY.

For particulars as to mines operating in Boundary see pages 71 to 82.

MINING STOCKS.

Company.	Capital.	Par Value.	Price.
TRAIL CREEK.			
Alberta	$1,000,000	$ 1	$0 4½
Baltimore	1,500,000	1	7
Big Three	3,500,000	1	14
British America Corporation	7,500,000	1	4 55
Bruce	1,000,000	1	10
Butte	1,000,000	1	2
Caledonia Con	1,000,000	1	6
Canada Western	1,000,000	1	
Canadian Gold Fields	1,000,000	10	7¼
Centre Star	3,300,000	1	
Commander	500,000	1	10
Deer Park	1,000,000	1	1½
Enterprise	1,000,000	1	20
Evening Star	1,000,000	1	9
Fairmont Gold	1,000,000	1	9
Fourteen Gold	5,000,000	1	2
Georgia	1,000,000	1	5
Gertrude	500,000	1	11
Golden Drip	500,000	1	14
Gopher	1,000,000	1	3
Giant	1,000,000	1	
Good Hope	1,000,000	1	2
Grand Prize	1,000,000	1	4
Hattie Brown	1,000,000	1	3
High Ore	500,000	1	5
Homestake	1,000,000	1	12½
Iron Colt	1,000,000	1	8
Iron Horse	1,000,000	1	9
Iron Mask	500,000	1	67
I. X. L.	1,000,000	5	10
Jumbo	500,000	1	25
Le Roi	£1,000,000	£ 5	£9
Lily May	$1,000,000	$ 1	$0 20
Mabel	1,000,000	1	15
Mayflower	1,000,000	1	10
Monarch	750,000	1	14
Monita	750,000	1	12
Monte Cristo	2,500,000	1	5
Montreal Gold Fields	800,000	25	
Mugwump	1,000,000	1	
Nest Egg-Firefly	1,000,000	1	5
Northern Belle	1,000,000	1	4
Novelty	1,000,000	1	2½
Poorman	500,000	1	14
R. E. Lee	2,000,000	1	5
Red Mountain View	1,000,000	1	2
Rossland, Red Mountain	1,000,000	1	11
Salmo Con	1,500,000	1	
St. Elmo	1,000,000	1	4½
Silver Bell Con	500,000	–	4
Silverine	500,000	125	6
Victory-Triumph	1,000,000	1	
Virginia	1,000,000	1	
War Eagle Consolidated	2,000,000	1	3 61
White Bear	2,000,000	1	3
NELSON, SLOCAN, AND AINSWORTH.			
American Boy	1,000,000	1	11
Arlington	1,000 000	1	6½
Argo	100 000	10	10
Athabaska	1,000,000	1	34
Black Hills	100,000	10	10
Buffalo of Slocan	150,000	10	
Dardanelles	1,000,000	1	11½
Dundee	1,000,000	1	23
Dellie	700,000	1	12
Exchequer	1,000,000	1	12
Fern Gold	200,000	25	35
Goodenough	800,000	1	11
Gibson	650,000	1	17
Hall Mines	£ 300,000	£ 1	£
Kaslo - Montezuma	$1,250,000	$ 1	$
Lerwick	1,500,000	1	10
Leviathan	2,000,000	1	4
London Con	150,000	25	38
Miller Creek	1,000,000	1	8
Minnesota	$1,000,000	$ 1	$0 66
Nelson Poorman	250,000	25	20
Noble Five Con	1,200,000	1	26
Ottawa and Ivanhoe	1,000,000	1	12½
Payne	3,000,000	1	3 45
Rambler Car	1,000,000	1	31
Reco	1,000,000	1	1
Slocan Reciprocity	1,000,000	1	
Slocan Star	500,000	50	1 25
Santa Marie	1,000,000	1	5
Silver Band	250,000	25	12½
Slocan Queen	1,000,000	1	10
Star	1,000,000	1	7
St. Keverne	1,000,000	1	4½
Sunshine	500,000	10	
Tamarac	1,000,000	1	11½
Two Friends	250,000	30	6
Washington	1,000,000	1	25
Wonderful	1,000,000	1	3
LARDEAU.			
Lardeau Goldsmith	200,000	1	4
Consolidated Sable Creek	1,500,000	1	10
Lardo-Duncan	1,500,000	1	5
REVELSTOKE.			
Carnes Creek Con	1,000,000	1	
BOUNDARY CREEK.			
Banner	100,000	10	5
Boundary Creek M. M. Co	1,500,000	1	5½
Brandon & Golden Crown	1,500,000	1	27
King	1,500,000	1	25
Knob Hill	1,500,000	1	96
Morrison	1,000,000	1	17
Old Ironsides	1,000,000	1	1 13
Pathfinder	1,000,000	1	16
Pay Ore	1,000,000	1	7½
Rathmullen	1,000,000	1	8
Winnipeg	1,000,000	1	34
CAMP MCKINNEY.			
Camp McKinney Dev. Co	600,000	1	23
Cariboo	1,250,000	1	1 25
Fontenoy	1,000,000	1	18
O'Shea	50,000	10	2
Little Cariboo	100,000	10	2
Mammoth	50,000	10	2
Minnehaha	1,000,000	1	24
Sailor	1,250,000	1	15
Shannon	50,000	5	3
Waterloo	100,000	10	9
Waterloo No. 2	50,000	10	2

(For live market quotations see page 90).



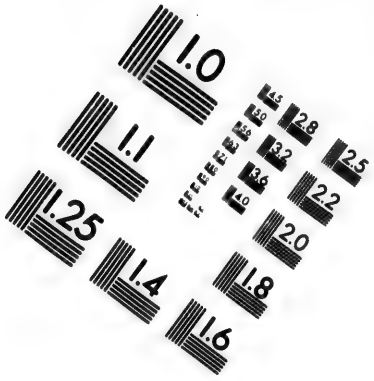
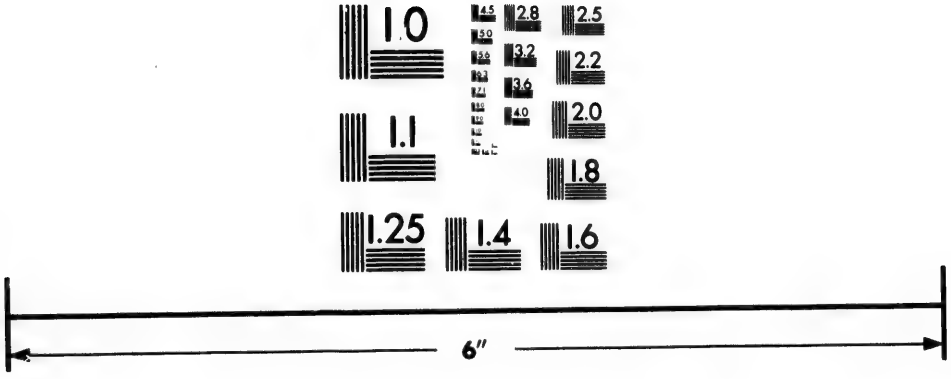
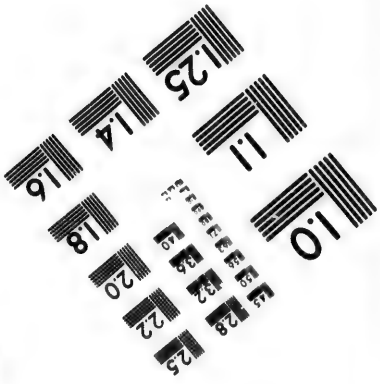


IMAGE EVALUATION TEST TARGET (MT-3)





Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

MINING STOCK QUOTATIONS.

(Corrected for the KOOTENAY MINING STANDARD to July 31.

Athabasca	38
Arlington	7½
American Boy	6
Baltimore	7½
B. C. Goldfields	5
Big Three	14½
Brandon & G. C.	28
Ben Hur	30
Butte & Boston	7
Cariboo, (Camp McKinney)	1 16
Commander	12½
Canadian Gold Fields	7½
Canada Western	15
Deer Park	4½
Dardanelles	12
Dundee	15½
Exchequer	11
Evening Star	10
Eureka N Star	8
Fairview	11
Fairmont	10
Fern	52
Fourteen G. M. Cop	2
Gertrude	11
Giant	4½
Good Hope	2
Grand Prize	4
Gopher	5
Homestake	9½
High Ore	3
Iron Mask	67½
Iron Colt	9
Iron Horse	8
Jumbo	30
Jim Blaine	37
Knob Hill	90
Lone Pine	20
Minnehaha	21
Monarch	15
Montreal Red Mountain	28
Morning Glory	10
Morrison	11
Miller Creek	9
Montreal Gold Fields	20
Monte Cristo	9½
Mugwump	6
Monita	12
Noble Five	27
Northern Belle	3½
Novelty	2
Nelson-Poorman	21
Old Ironsides	1 00
Okanagan	15
Pathfinder	15
Princess Maude	4½
Poorman	12
Quilp	16
Red Mountain	11
Reco	1 05
Rambler Cariboo	27
R. E. Lee	3
Rebate	17
San Poil	70
Smuggler	4
Silverine	6
Sullivan	22
Salmo Con	20
Slocan Star	1 50
Smuggler	4
St. Elmo	5
Tamarac	11½
Tom Thumb	17
Victory-Triumph	5½
Virginia	18
War Eagle	3 97
White Bear	5
Wonderful	2
Waterloo, Camp McKinney	8
Winnipeg M & S	32

Kootenay Ry. & Nav. Co.

OPERATING

Kaslo & Slocan Railway; International Navigation & Trading Co.

Scedule of Time. Pacific Standard Time.

EFFECTIVE JUNE 19--'99.

KASLO & SLOCAN RY.

Passenger train for Sandon and way stations, Leaves Kaslo at 8:00 A. M. daily
Returning, leaves Sandon at 1:15 P. M. arriving at Kaslo at 3:55 P. M.

International Nav. & Trading Co.

Operating on Kootenay Lake & River.

S. S. "INTERNATIONAL."

Leaves Kaslo for Nelson at 6:00 A. M., daily except Sunday.
Returning, leaves Nelson at 4:30 P. M., calling at Balfour, Pilot Bay, Ainsworth and all way points.
Connects with Str. Alberta to and from Bonner's Ferry, Idaho; also with S. F. & N. train to and from Spokane, at Five mile Point.

S. S. "ALBERTA."

Leaves Nelson for Bonner's Ferry, Tuesdays Thursdays and Saturdays at 7 A. M., meeting steamer "International" from Kaslo at Pilot Bay.
Returning, leaves Bonner's Ferry at 7:00 A. M. Wednesdays, Fridays and Sundays; connecting with Str. International, for Kaslo, Lardeau, and Argenta. Direct connections made at Bonner's Ferry with Great Northern Railway for all points east and west.

LARDEAU-DUNCAN DIVISION.

Steamer International leaves Kaslo for Lardeau and Argenta at 8.45 p. m., Wednesdays and Fridays.
Steamer Alberta leaves Kaslo for Lardeau and Argenta at 8 00 p.m. Sundays.
Steamers call at principal landings in both directions, and at other points when signalled.
Tickets sold to all points in Canada and the United States.
To ascertain rates and full information, address

ROBERT IRVING, MGR., Kaslo, B. C.

ORE SHIPMENTS.

Shipments via. Nakusp for the month of July were as follows :

Mine.	Destination.	Pounds.
Bosun	San Francisco	40,720
Total		40,720

Following are the ore shipments for the month of July via. Kaslo :

Mine.	Destination.	Pounds.
Trade Dollar	San Francisco	64,000
Sapphire	"	30,000
Whitewater	Gt Falls	330,000
Rambler	Everett	90,000
Wonderful	Tacoma	40,000
Sample	"	150
A. R. Browne	Ellesmer, Eng	372,561
sample	Spokane	125
Total		926,836

The following are the shipments of ore from Rossland for the month of July,

Le Roi	5,379
War Eagle	4,825
Iron Mask	510
Centre Star	2526
Evening Star	203
Total	64,629

These figures bring the totals for the year up to 1st of July to something close on 48,000 tons.

Canadian Pacific Railway

And SOO Line

Imperial Limited,

EAST NEW FAST DAILY SERVICE **WEST**

OPTIONAL ROUTES

East from the Kootenay Country.

First-Class Sleepers on All Trains from

Arrowhead and Kootenay Landing.

TOURIST CARS

Pass Revelstoke daily for St. Paul Thursdays for Montreal and Boston Tuesdays and Saturdays for Toronto,

2 Trains Daily To and From Robson & Nelson. 2

7 00 o'clock Lv. Rossland. Arr, 11 00 o'clock.
15 20 o'clock Lv. Rossland. Arr. 19 40 o'clock.

Morning train daily for North and Main line, and (except Sunday) for Kaslo. Afternoon train daily for Crow's Nest Pass line, and (except Sunday) for Sandon and Slocan points.

ROSSLAND TO

Toronto	92 Hours.	Montreal	96 Hours.
New York	108 "	Winnipeg	52 "
Vancouver	30 "	Victoria	34 "

4 Hours from Rossland to Nelson.

For Rates and Full Information Address the nearest Local Agent or

A. B. MACKENZIE, City Tkt Agt } Rossland
P. G. DENISON, Agent, }
W. F. ANDERSON, Trav. Pass. Agent, Nelson.
E. J. COYLE, A. G. P. A. Vancouver.

Spokane Falls & Northern

Nelson & Fort Sheppard R'y.

Red Mountain Railway.

The Only Direct Route to Nelson, Kaslo, Kootenay Lake and Slocan Points.

Every day in the year between

SPOKANE, ROSSLAND & NELSON.

EFFECTIVE 12:01 A. M., JAN. 3.

LEAVE.	DAILY,	ARRIVE.
8:30 a. m.	Spokane	6:30 p. m.
1:55 p. m.	Northport	1:00 p. m.
Arrive 3:10 p. m.	Rossland	Leave 11:55 a. m.

No change of cars between Spokane and Rossland.

Tickets on sale all over the world
Close connections at Nelson with steamers for Kaslo and all Kootenay Lake points.
Passengers for Kettle River, Boundary Camp and Boundary Creek connect at Marcus and Bossburg with stage daily.

E. W. RUFF, Agent, Rossland, B. C.
SEATLE & DEWAR, Agent, Trail, B. C.
C. G. DIXON, G. P. T. A., Spokane, Wash.

The British-American Weekly. Established April, 1897

The British Columbia Review

AND

NORTH-AMERICAN MINING JOURNAL.

A Weekly Review of Canadian Mining, Trade and Finance.

THE B. C. REVIEW gives reliable information upon the movements of Mining Stocks in England and Canada, and its comments thereon are absolutely impartial. It speaks with special authority upon all City matters connected with British America.

THE B. C. REVIEW is frequently able to give special and exclusive information of great value to investors and mining men generally. Annual subscription, post free; 10s. 6d Colonies and abroad, 12s. 6d.

THE B. C. REVIEW will reproduce the July Annual KOOTENAY MINING STANDARD with all its artistic effect.

Advertisement and Editorial Offices 65 New Broad Street, Corner of London Wall, London, E. C.

Published every Saturday. Price 2d. By post 2 1-2d. Cablegrams: JUGATOR.

SPECIAL OFFER TO ADVERTISERS.

		PER MONTH ON SIX MONTHS CONTRACT.	PER MONTH ON YEAR CONTRACT.
1	PAGE	$16.00	$12.00
1-2	"	10.00	7.00
1-4	"	7.00	5.00
1-8	"	5.00	4.00

GEORGE PURGOLD,

Stock and Share Broker.

Wallace Building, Columbia Avenue

ROSSLAND, B. C.

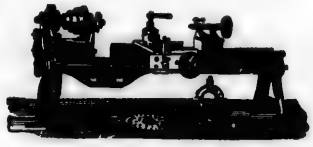
P. O. Box 73. Cable Address, "PURGOLD."

CODES, A, B. C., Fourth edition Moreing and Neals, Clough's and Bedford McNeills.

CUNLIFF & ABLETT.

Rossland Engineering Works

Engineers, Founders,



Boilermakers. Machinists.

All Classes of Repairs and Construction Work Undertaken.

Ore Cars, Wheels and Axels, Ore Buckets, Fans, Shafting, Hangers and Pulleys. Pipe Work a Specialty.

AGENTS: Wm. Hamilton Mfg. Co., Peterboro', Ont. Nordway Pump Works, Toronto

PUMPS ALWAYS IN STOCK.

Third Ave., ROSSLAND, B. C.

C. O. LALONDE,

The Leading and Pioneer Shoe Store

—OF—

ROSSLAND, B. C.

FINE FOOTWEAR A SPECIALTY. The very best makes of MINERS' and PROSPECTORS' SHOES Always in Stock.

MAIL ORDERS PROMPTLY ATTENDED TO.

106 WEST COLUMBIA AVENUE.
and 111 EAST " "

D. E. KERR, D. D. S.

ROSSLAND, B. C.

Expert Dentistry in all its Branches.

Appointments may be made by Letter or Telephone from neighboring towns.

DIAMOND-POINTED CORE DRILLS

—FOR—

Prospecting Mineral Lands and Developing Mines.

MACHINES OF ALL CAPACITIES.

American Diamond Rock Drill Co.,
120 Liberty Street
P. O. BOX 1443. NEW YORK.

Halcyon Springs.

HOTEL and SANITARIUM.

A Beautiful Pleasure and Health Resort on the Arrow Head Lakes.

SPLENDID PLUNGE BATHS.

HALCYON LITHIA WATER

IS HIGHLY RECOMMENDED BY THE BEST MEDICAL EXPERTS.

FOR ROOMS AND WATER ADDRESS

MANAGEMENT, HALCYON SPRINGS, HALCYON, B. C.

Vancouver Hardware Co., Ltd.

—Wholesale importers of—

Shelf and Heavy Hardware,

Paints, Oils, Plumbers' Supplies,
Miners' Supplies, Stoves, Tinware.

Baker St., - - - - Nelson.

P. BURNS & CO.,

Wholesale and Retail Meat Merchants.

Wholesale Markets at Nelson, Rossland, Sandon and Greenwood.

RETAIL STORES AT

Nelson, Trail, Ymir, Kaslo, New Denver, Sandon, Silverton, Cascade City, Grand Forks, Midway, Greenwood and Sirdar.

Orders by Mail Promptly Forwarded.

HEAD OFFICE, NELSON, B. C.

For Fine Wines

—and—

Choice Brands of Cigars

—address—

CALIFORNIA WINE COMPANY,

NELSON, - - - B. C.

The Vancouver Ore Testing Works.

W. PELLEW-HARVEY, F. C. S.

MEM. INST. M. M.

ESTABLISHED 1890.

Mining Engineer Assayer and Analytical Chemist.

Specialty Made of
Advising on Ore Treatments, Checking Smelter Pulps, Concentration, Cyanidation and Milling on a practical scale up to two tons.

Agent in Canada for
MESSRS. VIVIAN & SONS, SWANSEA.
THE ELLIOTT'S METAL CO., LTD., BURRY PORT.
THE MCARTHUR-FORREST CYANIDE PROCESS, GLASGOW.

FOR MANY YEARS WITH MESSRS. VIVIAN & SONS, SWANSEA

VANCOUVER AND VICTORIA, B. C.

ASSAYERS' MATERIALS, PROSPECTORS' OUTFITS,

Furnaces, Balances, Scales, Weights, Etc.

MINE AND MILL SUPPLIES, CHEMICALS, CHEMICAL GLASSWARE, ETC.

JOHN TAYLOR & CO.,

Write for Prices. 63 FIRST STREET, SAN FRANCISCO, CAL.

GOLD COMMISSIONERS AND MINING RECORDERS

Mining Div.	Name of Recor.	Address	Name of Gold Commissioner	Address
East Kootenay—				
Donald	J Stirret	Donald	J E Griffith..	Donald.
Golden	F C Lang	Golden		
Windermere	G Goldie	Windermere		
Fort Steele	C M Edwards	Fort Steele	JF Armstrong	Fort Steele.
"	M Phillips	Tobacco Plains.		
West Kootenay—				
Revelstoke	F Fraser	Revelstoke	H R Coursier,	Revelstoke.
Illecillewaet	W Scott	Illecillewaet		
Lardeau		Lardeau		
Trout Lake	T Taylor	Trout Lake		
Slocan	A McInnis	New Denver		
Slocan City	H P Christie	Slocan City		
Arrow Lake	F G Fauquier	Nakusp		
Ainsworth	John Keen	Kaslo		
Nelson	D A McBeath.	Nelson	Jno A Turner.	Nelso
Trail Creek	J Kirkup	Rossland	J Kirkup	Rossland
Goat River	M Murphy	Kuskanook		

TELEPHONE 82. P. O. BOX 786.

RICHARD PLEWMAN, STOCK BROKER.

Tel. and Cable Address, "Plewman, Rossland.

Clough's and Bedford McNeill's Codes.

Companies Incorporated. Stocks of Merit Bought and Sold for Clients only. Weekly Stock Letter Issued Mondays. Mailed Regularly on Application.

Official Broker The Baltimore Gold Mining and Development Co. The Winnipeg Mining & Smelting Co.

B. C. Mining Properties For Sale.

NO. 3 IMPERIAL BLOCK,

ROSSLAND, - B. C.

E. A. HAGGEN,

Assayer, Notary Public, Mining, Financial and Commission Agent

GOLDEN, B. C.

Properties Examined and Reported on. A Thorough Knowledge of East Kootenay.

Cable Address: "Kanagan", Golden.

Codes: Moreing and Neal, and Bedford McNeill.

W. H. PAUL & CO.,

STOCK BROKERS.

We deal in all Standard Stocks of the Rossland, Boundary, and Republic Camps. Write for our Weekly Price List.

CORRESPONDENCE PROMPTLY ATTENDED TO.

Room 68, Canada Life Building, MONTREAL, QUE.

Promoters Shares in Mining Companies,

If the properties they are based upon are well selected, pay enormously upon small investments, while possible losses are trifling.

I offer such shares in two recently organized syndicates, whose properties are vested in trustees, soon to be incorporated, and in two already incorporated, that have a few shares for sale for development purposes. The prices are very low considering the favorable reports from the results of work so far accomplished. One of these, on the famous "Lime Dyke" ledge, Trout Lake District, B. C., will ship exceptionally high grade ore as soon as the C. P. Railway, now building to Trout Lake, can accept it. The surface ore, solid galena stringers of 4.6 and 18 inches, assays $180 per ton. The others are groups on Sullivan Creek, and other valuable properties on Lookout Mountain, overlooking Trail smelter, and near Dundee, Ymir District.

An early investigation of these propositions is seriously advised, and an opportunity for submitting details solicited.

GEO. K. MORTON, Private Banker, St. Thomas, Ontario.

The B. C. Assay & Chemical Supply Co., Ltd.

(Late MacFarlane & Co.)

VANCOUVER, B. C.

WE ARE MANUFACTURERS AND DIRECT IMPORTERS,

And carry a Large Stock of

Balances, Furnaces, Fire Clay Goods, Scientific and Practical Books, Glassware, Platinum Goods, Acids, Chemicals, and all other Assayers' and Miners' requirements.

SOLE AGENTS FOR

MORGAN CRUCIBLE COMPANY, BATTERSEA, BECKER'S SONS' BALANCES, ETC.

Catalogue and full particulars sent on application.

F. W. ROLT. R. M. GROGAN.

ROLT & GROGAN,

Mining & Investment Brokers

P. O. Box 428.

CODES: Bedford McNeill. Clough.

Columbia Avenue - - Rossland, B. C.

G. W. McBRIDE.

WHOLESALE AND RETAIL

HARDWARE AND MINE SUPPLIES.

Jessop and Canton Steel, T. Rails.

Iron Pipe, Bar Iron, B. S. Coal.

AGENT;—Imperial Oil Co's. Lubricating and Illuminating Oils; Mission Candle Works' Miners' Candles; Canada Paint Co's. Painters' Supplies.

ROSSLAND, B. C.

WEST KOOTENAY POWER AND LIGHT COMPANY,

LIMITED

Head Office and Distributing Station, - - ROSSLAND, B. C.
Generating Station, - - - - BONNINGTON FALLS.

Estimates Given for Supplying Power

FOR THE OPERATION OF

Hoists, Compressors, Blowers, Sinking Pumps, Crushers, Lights,
AND ALL OTHER SMALL POWERS.

TELEPHONE 41. P. O. BOX 48.

Rossland Warehouse AND Transfer Co.

WILL MOVE OR WAREHOUSE ANYTHING.

DEALERS IN

LIME, CEMENT, BRICK, PLASTER, BUILDING TILE,
DRAIN TILE, COAL, HAY, OATS.

THE BEST WAREHOUSE FACILITIES IN KOOTENAY.

Will Clear and Distribute or Warehouse as Required by Shipper Any Class of Goods. Insurance if Desired on Storage upon Application.

REFERENCES: { BANK OF MONTREAL. MARTIN BROS.

T. R. MORROW,

Wholesale & Retail Druggist,

ROSSLAND, B. C.

Has a Complete Stock of Assayers, Photographic and Artists Supplies.

Our Goods Are Right.

Our Prices Are Right.

THE LARGEST STOCK OF DRUGS, TOILET ARTICLES, ETC. IN KOOTENAY.

Davidson's Headache Powders Sure Cure For MINER'S HEADACHE.

WRITE FOR PRICES.

25 PER CENT. REDUCTION SALE,

Crockery, China AND Glassware,

CONSISTING OF

Plates, Cups, Saucers, Cake Plates, Salad Bowls, Mush Sets, Mush Bowls, Sauce Dishes, Glass Bowls Low and Footed, Goblets, Tumblers, Vases, Etc., Etc. Lamps and Tinware, Heavy Hotel Ware. A Full Line of Bar Goods.

O. M. FOX & CO.,

Columbia Ave. and Lincoln St., ROSSLAND, B. C.

JAS. HUNTER. ROBT. HUNTER.

HUNTER BROS.

MINING SUPPLIES.

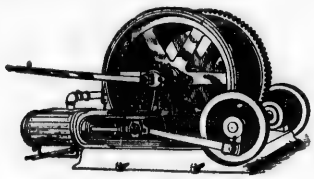
Canton Steel,
Ensign Bickford's Patent Fuse,
Giant Powder,
Giant Caps,
Goodwin Candles,
Verona Mining Tools,
Pipe Fittings,
Steam Fittings.

A Complete Stock of Steel Rails, Mining and Building Hardware, Wholesale and Retail Groceries, Men's Rubber Boots and Rubber Clothing.

CANADIAN RAND DRILL CO.

Jenckes Machine Co.

ROSSLAND, - B. C.



Mining and Milling Machinery,
Compressors, Rock Drills,
Boilers, Hoists, Pumps,
General Mining Supplies.

COMPLETE STOCK ON HAND.

Write for Catalogue. F. R. MENDENHALL, Agent.

THE REFERENDUM FREE GOLD MINING AND MILLING CO., LTD.

NON-PERSONAL LIABILITY.

Capital Stock $500,000, in 2,000,000 Shares of 25c. Each.

TO THE PUBLIC:—

We submit to you as a safe and profitable investment the first issue of 100,000 shares of the Referendum Free Gold Mining and Milling Company, Limited, non-personal liability. The capital stock of the Company is $500,000 in shares of 25 cents par value. Of these 800,000 shares are set aside to be sold to develop further the property, and operate the mine.

The Company's property consists of the Referendum, Katie and Golden Cross mineral claims, situated on Forty-Nine Creek, about eight miles from the city of Nelson, B. C., and in the well-known free gold belt, in which are also the Athabasca and Poorman mines, which have yeilded excellent profits to their owners. Two shafts, thirty-five feet deep, have been sunk on one vein, and numerous cuttings have been made, showing the continuity of the ore body for one thousand feet. Assays from ore from these works are as follows: $30, $37, $246, $360 and $412. Dr. P. Langhammer, mining engineer, estimates this vein to average $43 in value and twenty inches in width. This showing has enabled the Company to conclude arrangements for a plant to treat the ore, to be installed before snowfall. The gold being free and capable of extraction on the ground, the expensive charges of transportation and smelting are obviated, and the profits will be correspondingly larger than from a base ore of equal assay value. The Company has thus its property proven, and arrangements made to mine profitably from its inception, and to pay dividends at an early date.

A second quartz vein, six feet in width, surface ore from which gave assays of $5, crosses the property. Exploratory work on this vein is now in process. This vein promises to be a valuable one upon development.

The Referendum Company share offers the following advantages: Ore body of value proven, plant arranged for at once, reduction of ore on the grounds, and ample treasury for further development.

The first issue of shares is offered at five cents, payable in five equal monthly instalments. By statutory provision these shares are sold free from further personal liability.

Applications for stock, accompanied by remittance of first payment, may be made through any chartered bank or direct to the undersigned.

E. N. OUIMETTE & CO.,
BROKERS FOR THE COMPANY,
ROSSLAND, B. C.

BANKERS FOR THE COMPANY:
BANK OF MONTREAL, ROSSLAND.

Quick Work.

RED STAR LIVERY AND TRANSFER COMPANY.

Good Saddle Horses, Elegant Turnouts,

and Fancy Driving Teams

Will drive you anywhere, at any time, day or night. If you are getting up a driving party see us about rigs; Good Horses. Horses boarded by the day or month. Packing of all kinds done. We do Express and Baggage work, will call at any part of the city. Contract and job work done promptly, light or heavy freight handled, mining machinery delivered on short notice, ore contracts taken, furniture, pianos and safes safely moved. We pay all damage done to anything we handle. We act as shippers' agents. Will Transfer, Warehouse or Ship any class of goods.

WE SELL WASHINGTON SEASONED FIR AND TAMARACK WOOD.

STABLES, First Ave., Between Washington and Spokane Sts. | TELEPHONE NO. 8. | **OFFICE, 9 Washington St.** Martin Block.

JOHN W. HARTLINE, Prop.

M. F. CHESNUT, PRESIDENT. J. M. MILLER, SECRETARY-TREASURER.

THE PRIMROSE GOLD MINING COMPANY, LTD.

Capitalization 1,000,000 Shares, Fully Paid and Non-Assessable.
475,000 Treasury Shares. Par Value $1 Each.

The directors of the "Primrose Gold Mining Company, Limited," are now in a position to announce to the stockholders of the Company, and to the mining public, that they have just succeeded in securing title to the "Grace C." and "Edna" mineral claims—two of the richest and most promising properties in the Lardeau-Duncan country.

Assays from these properties give the magnificent return of $725.76 to the ton—**Twenty-three per cent. of which is in Copper.**

With these values on the very surface, and with two large and well-defined ledges running through the properties, the Company feels justified in declaring the "Primrose" an almost immediate producer.

The "Grace C." and "Edna" are located on the West Fork of the Duncan River, and within a half mile of the splendid properties of the Old Gold Company, and in the immediate neighborhood of the Bad Shot, Abbott, Wagner, Bannoch Burn and Silver Cup mines, the ores from which are of high values.

The development work upon these properties has produced a splendid showing, considerable shipping ore having already been taken out.

The "Primrose Company" now owns seven valuable properties, five of which are on the North Fork of the Salmon River, one of the finest gold-producing districts in the Province.

The Company is out of debt, and has a good cash fund on hand. Work is being pushed on the property and will be continued vigorously during the summer.

NOTE THE FOLLOWING FACTS.

1. Three hundred and fifty acres of Valuable Mineral Lands. 2. Shipping Ore from the surface. 3. Development Work now being Vigorously Pushed. 4. No Debts. 5. No Salaried Officers. 6. Low Capitalization. 7. Large Treasury Fund. 8. Careful and Energetic Management.

Only a small block of stock will be sold at Ten Cents, when the price will be advanced.

J. M. MILLER, Secretary-Treasurer

P. O. Box 148. ROSSLAND, B. C.

Gold and Silver Stocks.

For Reliable Information or Investments in Rossland, Boundary, Cariboo (Camp McKinney), Republic and Slocan Districts, Write or Wire

THE REDDIN-JACKSON CO.,

Limited Liability,

P. O. BOX 498. - - - ROSSLAND, B. C.

ESTABLISHED 1895.

Operating the Largest Brokerage Business in the North-West.

We are not Promoters or Interested in any Companies.

We Buy and Sell Stocks only on Commission.

REFERENCES:

Bank of Montreal.
Bank of Halifax.
Bank of British North America.

} ROSSLAND, B. C.

CODES:

Clough's M. Code.
Moreing & Neals.
Bedford McNeill's.
Leibers S. T. Code.

THOS. S. GILMOUR,
ACCOUNTANT, MINING AGENT.

Stocks and Shares.

OFFICE OF The Homestake Mines, Limited.
R. E. Lee Gold Mines, Limited.
Gopher Gold Mining Co., Ltd. Lia.
Gold King Mining Co., Ltd. Lia.
Red Mountain View Mines, Ltd., (Non-personal Liability.)
Carbonate Silver Mines, Ltd., (Non-personal Liability.)
British Columbia Syndicate, Ltd. Lia.
British Columbia Gold Discovery Co., Ltd., London, Eng.

Cable Address: "Whitehall." **Code: Bedford McNeill.**

Correspondence Solicited.

16 Columbia Ave., P.O. Box 88. **ROSSLAND, B. C.**

CHAS E. BENN. **J. L. PARKER.**

J. L. PARKER & CO.

Columbia Ave., Rossland, B. C.

MINING ENGINEERS AND BROKERS

CABLE ADDRESS: "PARKER," ROSSLAND.

CODES; MOREING & NEAL'S, BEDFORD McNEILL'S, AND CLOUGH'S.

J. L. PARKER,
Consulting Mining Engineer for Dundee, Tamarac and Fairmont

Properties Examined, Mines Managed, Standard Stocks Bought and Sold.

P. O. Box 64. **Telephone 83.**

J. M. MILLER, PRESIDENT. GEO. N. TAYLOR, VICE PRESIDENT. M. F. CHESNUT, SEC'Y.-TREAS.

The Old Gold Quartz & Placer Mining Co., Ltd.

CAPITALIZATION 1,500,000 SHARES, FULLY PAID AND NON-ASSESSABLE.
500,000 TREASURY SHARES. PAR VALUE $1 EACH.

The Old Gold Quartz and Placer Mining Company's properties consist of eight claims (comprising about 420 acres of rich mineral lands) six of which are on the North Fork of the Salmon River, one of the most promising gold producing districts of British Columbia, and two within the Famous Lardeau-Duncan Country.

All of these properties have good ledges. The Lardeau-Duncan properties have two large and well defined ledges, one of which is over 25 feet in width, and carry from the very surface more than three times the values of the famous Le Roi, and are located among such well-known properties as the Primrose, Silver Cup, Bad Shot, Wagner, and Abbott mines.

The Company has just received the very satisfactory smelter test of ONE HUNDRED AND THIRTY-TWO DOLLARS AND EIGHTY CENTS to the ton from a recent shipment of ore from the property. The Manager of the smelter in sending the returns makes the following statement:—"This is an excellent grade of ore and should be shipped to great profit."

Development work is progressing on these properties and will be continued without interruption.

The Old Gold has a considerable amount of high grade shipping ore on the dump, a large amount in sight, and will commence regular shipments this summer.

We have every reason to believe that we will be able to take a sufficient amount of ore from the mines to pay all expenses of developing and operating the property from the time we make our first regular shipment.

NOTE THE FOLLOWING FACTS.

1. A large area of Rich Mineral Lands. 2. Low Capitalization. 3. Large Treasury Fund for Development Purposes. 4. Water and Timber in Abundance for all Mining Purposes. 5. No Salary to any Officer until the property becomes dividend paying. 6. A Careful, Economical and Honest Management. 7. The Company has no debts; has a good cash fund in the Treasury; a large amount of unsold Treasury Stock; is working its properties with a good force of men, and is taking out high-grade shipping ore from the surface.

The above are some of the reasons why an investment in the shares of The Old Gold Quartz and Placer Mining Company at present prices is the most profitable that can be made in British Columbia.

A limited number of shares will be placed on the Market at Twenty Cents. The Company reserves the right to advance the price at any time without notice.

M. F. CHESNUT, Secretary-Treasurer,
P. O. BOX 148, ROSSLAND, B. C.

DANIEL DICKINSON. WALTER L. ORDE.

DICKINSON & ORDE,

Mining and Stock Brokers.

Correspondence Solicited.

Our Weekly List of Stock Offerings with Market Report will be sent to any address on application. Trustworth· information relative to B. C. Mining Stocks cheerfully given.

ROSSLAND, - - - - - B. C.

Cable Address: "NUGGETS." Telephone 44.

KENNEDY, CRONYN & RACE,

27 Columbia Avenue, Rossland.

DEALERS IN

Mines, Stocks and Real Estate.

OFFICIAL BROKERS.

Dundee Gold Mining Co.

Fairmont Gold Mining Co.

Monarch Gold Mining Co.

—THE—

Royal Electric Company

MONTREAL—Western Office: TORONTO.

Manufacturers of

Electrical Machinery AND Apparatus for Mining and Transmission of Power.

Our S. K. C. Two Phase System

RENDERS DISTANT WATER POWERS AVAILABLE FOR ALL KINDS OF MINING WORK.

Tramways	Compressors
Hoists	Fans
Locomotives	Stamps
Pumps	Drills

Write us your requirements and we will furnish you with estimates and plans.

GEO. C. HINTON, & CO., B. C. AGENTS, VANCOUVER.

The James Cooper Mfg. Co., Ltd.

Manufacturers. Under Patents

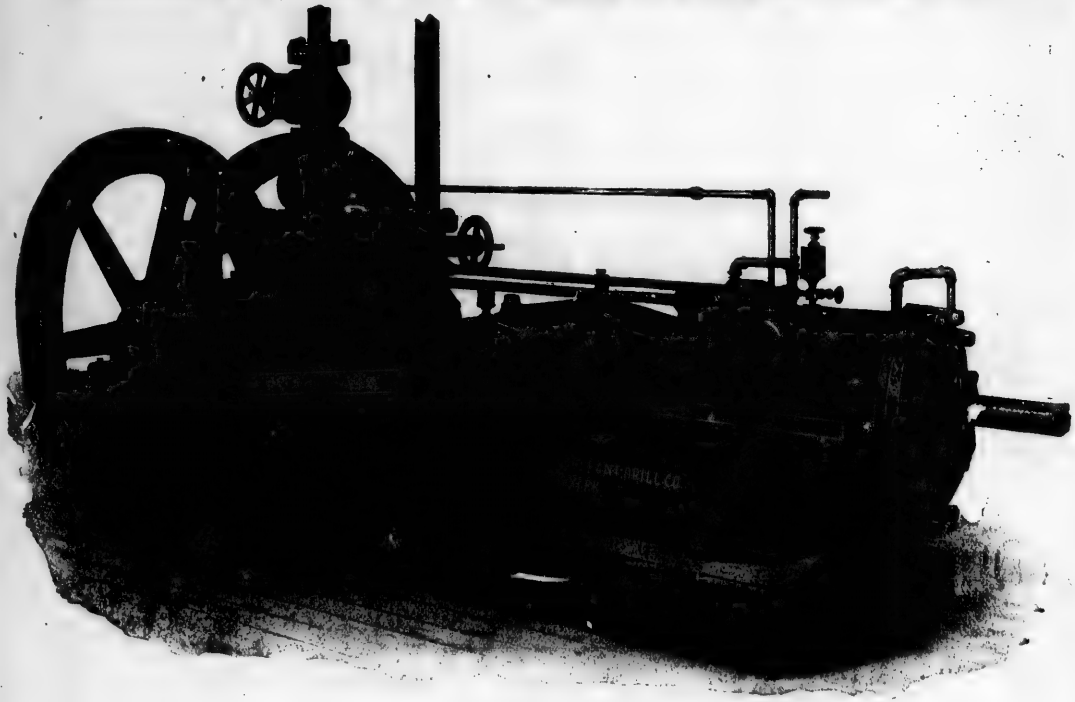
OF

INGERSOLL-SERGEANT MACHINERY.

Head Office and Works: Montreal, Canada.

BRANCH OFFICES:

Rossland, B. C., Vancouver, B. C., Halifax, N. S. and Rat Portage, Man.



MANUFACTURERS OF

Boilers, Air Compressors, Rock Drills, Hoisting and Winding Engines, Coal Cutting Machines, Channelling Machines and Machinery for the Milling and Smelting of Ores. Wire Rope, Ore Cars, Ore Buckets, Sinking and other Pumps. Stock carried in Rossland. Small Plants furnished immediately. Write for Catalogues and particulars to Head Office, or

JAMES D. SWORD, Agent,

Post Office Block,, TELEPHONE 60. Rossland, B. C.

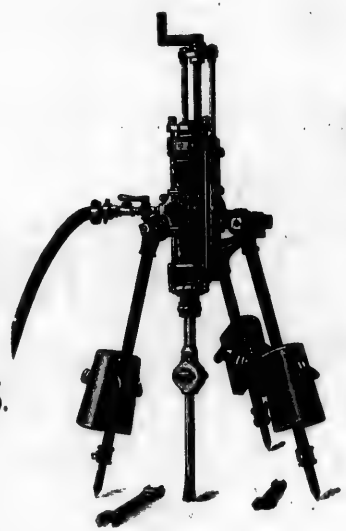
THE MAC MACHINE CO.,

LIMITED.

Head Office and Works Belleville, Ont.
Branch Office and Works Trail, B. C.

MANUFACTURERS OF

AIR COMPRESSORS,
ROCK DRILLS,
HOISTING AND
STATIONERY ENGINES.



BOILERS,
ORE TRUCKS,
ORE CARS,
ORE BUCKETS, ETC.

KNOWLES PUMPS.

Our Machine Shops at Trail are most complete, consequently we are in a position to handle all kinds of repairs.

J. B. Johnson & Co.,

DEALERS IN

MINES, STOCKS, REAL ESTATE, ETC.

Orders By Wire Promptly Attended To.

J. W. SPRING

THE LEADING JEWELER.

Diamond Importer, Manufacturer AND Watchmaker

A GOOD INVESTMENT.

Money paid for a Good Watch is always Well Invested. Promptness and Punctuality are the Essence of Business, and it is therefore necessary that a Business Man should have a Proper Timepiece. We make it a point to have in stock Fine, Reliable Timepieces. We also make a Specialty of Fine Repairing, and if your watch was ever a fine timekeeper we can thoroughly renovate it and make it so again.

COLUMBIA AVE., ROSSLAND, B.C.

FOR SALE!

MINES.

Mines at Trail, Rossland, and Salmon Creeks, Deer Park, Murphy Creek, and all parts of the Columbia Basin.

WILL EXAMINE and REPORT on MINES

Can bring to bear the result of 28 Years' Experience in Mining.

E. S. TOPPING

TRAIL, - - - B. C.

THE TORONTO WORLD

Contains More Mining News than any other Eastern Daily.
It Reaches All Canadian Investors in Mines and Mining Stocks.

Subscription Rates:

Daily and Sunday Editions, $5 00 a Year.
Daily Edition only, $3 00 a Year.

Advertising Rates

Furnished on Application to

The World Newspaper Co., Ltd.,

83 Yonge St., - - Toronto.

The Most Delightful

SUMMER RESORT

—IN—

KOOTENAY

KASLO HOTEL.

Every Accommodation for Tourists and Commercial Men.
Situated on the Shore of Kootenay Lake.

Cockle & Papworth, Proprs.

Bourne Bros.

GENERAL

MERCHANTS

STORES AT

REVELSTOKE, NEW DENVER AND NAKUSP.

PATENAUDE BROS.

Watch Repairing Skilfully and Scientifically Executed.

We are thoroughly equipped with every facility for modern, up-to-date watch making.

SATISFACTION POSITIVELY GUARANTEED OR MONEY REFUNDED.

Our Optical Department is attended by an Expert of long experience. Fine Engineering Instruments Carefully Repaired.

PATENAUDE BROS., · · Nelson, B. C.

SMOKE

"ROYAL SEAL" AND "KOOTENAY BELLE" CIGARS.

UNION MADE BY THE

Kootenay Cigar Manufacturing Co., · · Nelson, B. C.

TELEPHONE 118. P. O. BOX 126.

THE HALL MINES, LTD.

NELSON, B. C.

H. E. CROASDAILE, General Manager.

R. R. HEDLEY, Smelting Supt.

SMELTERS AND REFINERS.

PURCHASE

Gold, Silver, Copper and Lead Ores,
and Concentrates,
and Copper Matte.

General Offices and Smelting Works

NELSON, BRITISH COLUMBIA.

INDEX.

Abe Lincoln 18
Acrostic, "Kootenay Mining Standard," 22
Ainsworth 53
Arrowhead 55
C. P. R. steamship 56
B. A. C. Offices 6
B. C. Bullion Extracting Co. Works 15
Big Sheep Creek Gulley 17
Bonnington Falls 10
Bosun Mine 47
Burnt Basin 71
Brooklyn Mine 79
Columbia and Kootenay Mine 6
Centre Star 9 11
Coxey 12
Commander 8
Cody 58
Cranbrook 66
Board of Trade 67
Cascade City 71
Crown Grants 85
Deerpark 7
Duncan Mines 27
Dandy Mine 28
Dundee Mine 44
Developing Mines 88
Dividend-paying Mines 85
Emily Edith Mine 49
Erie 54
Fort Steele 68
Board of Trade 69
Great Western 7
Gertrude 12
Giant 12
Gopher Tunnel 18
Grand Forks 72
City Council 73
Board of Trade 74
Merchants' Bank of Halifax 72
Residences 76
Waterworks Offices 76
Greenwood 77
City Council 78
Canadian Bank of Commerce 77
Bank of B. N. A. 78
Golden Crown 81
Gold Commissioners 94
Geological Formations 85
Homestake Mine 18
Hall Mines Smelter 25
" " Tramway 25
" " Early Shipments 26
Halcyon Hot Springs 54
Happy Hunters 67
Introductory 1 2
Iron Colt 12
Iron Mask 13
Josie Mine 7
Jumbo Mine 12
Jackson Mine 50
Kootenay Indians 31
Kaslo 39
Board of Trade 41
City Council 40
Bank of B. N. A. 41
Kootenay River 62
Kootenay Bridge 70
Knob Hill 75
Le Roi 5 9 10
Lilly May 18
Lake Shore 65
Monte Cristo 14
Middle Falls, Kootenay River 58
Mansfield Camp 58
McGuigan 61
Movie City 63
Board of Trade 64
Lake 64
Miners' Cabins 69
Morrison Mine 78
Mother Lode 82
Mining Recorders 94
Mining Stocks 89
Mining Machinery 86 7 8
Nickle Plate Mine 8
No. 1 12
Nelson 23
Street View 24
Lake View 24
City Council 28
Board of Trade 29
Imperial Bank 30
Bank of Montreal 30
Bank of B. C. 30
Bank of Halifax 30
New Denver 46
Bank of Montreal 46
R. T. Lowery 46
Noonday 48
Nakusp 56
Original Settlers 49
Ore Milling Co. 53
Old Ironsides 74
Ore Shipments 90
Pride o' the Staff. Frontispiece
Pioneer Train for Slocan 29
Prospectors Tour 37
Parliament Buildings 83
Queen Bess Mine 57
Rossland and Mines 3
Street View 3
Buildings 4
City Council 20
Board of Trade 21
R E Lee Mine 18
Royal Canadian Mine 27
Reco Mines 35
Rawhiding, Slocan 36
Revelstoke 59
City Council 60
Board of Trade 61
Molson's Bank 60
Imperial Bank of Canada 60
Rathmullen 80
Railways 85
Smelter, Northport 16
Sunset No 2 18
Silver King Tramway 26
Silver King Storehouse 26
Slocan City 31
Sandon 34
City Council 38
Bank of B C 38
Silverton 48
Salmo 58
St Eugene 65
Stemwinder 78
Stock Quotations 90
Shipping Mines 88
Steamships 75
Trail, Town of 32
Trail Smelter 33
Three Forks 57
Trout Lake 82
Virginia Mine 9
Victory-Triumph Mine 17
Velvet Mine 17
Volcanic Mine 75
War Eagle Mine 9-10-11
White Bear Mine 12
Whitewater 50
Whitewater Mine 51
Whitewater Deep 52
Wild Horse Creek 68
Winnipeg Mine 81
Ymir 42
Merchants Bank of Halifax 42
Ymir Mine 43
Board of Trade 45

The firm of Kennedy, Cronyn & Race has changed, the business now being carried on under the name and title of Ernest Kennedy & Co. The change in title does not affect the high standing of this well known Rossland office of brokers.

The B. C. Assay & Chemical Supply Company, Limited has taken over the business formerly conducted by Messrs. MacFarlane & Co., at Vancouver (see advertising pages). A full line of goods of the best quality is in stock.

STANDARD

PUBLISHING

COMPANY,

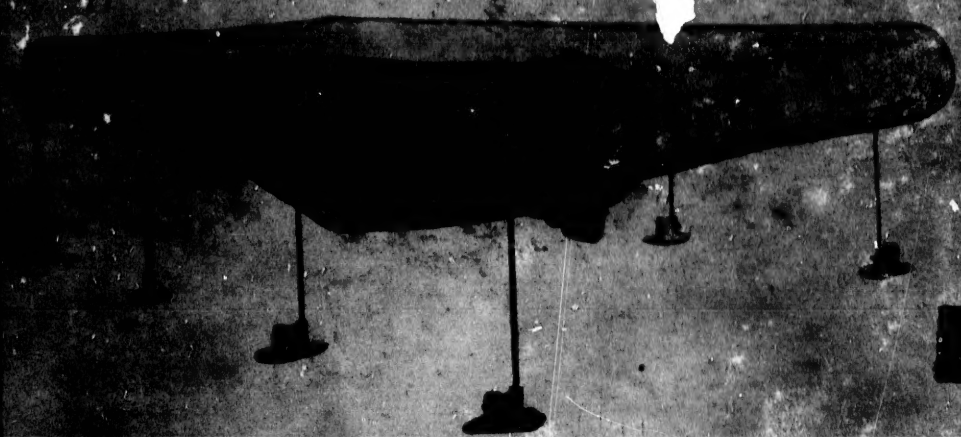
ROSSLAND, B. C.

The William Hamilton M'f'g. Co., Limited,

PETERBOROUGH, ONTARIO.

BUILDERS OF

MODERN MINING MACHINERY.



Contractors for the Design and Construction of Complete Stamp Mills, Concentration, Chlorination, Cyanide and Smelter Equipments.

Sole Agents for John Bertram & Sons' Iron Working Machinery, MacGregor, Gourlay & Co's. Wood Working Machinery, R. Hoe & Co's. Celebrated Inserted Tooth Saws, M. Beatty & Son's Dredging Machinery.

BRANCH OFFICES: VANCOUVER, ROSSLAND AND GREENWOOD, B. C.